ORDER NO.ACED001011C1

C1

Service Manual

AUTOMOTIVE CONSUMER ELECTRONICS

CQ-4500U

Heavy Duty Cassette Player /Weather Band Receiver with Changer Control

SPECIFICATIONS

Specifications *

General

Power Supply	: 12V DC (11V-16V) Test Voltage 14.4V, Negative ground
Maximum Power Output	: 37 Wx4 channel at 400Hz, Volume Control maximum
Power Output	: 18 W per channel into 4 ohms, 40 to 30,000Hz, at 3% THD
Tone Action	: Bass; ± 10 dB at 100Hz Treble; ± 10 dB at 10kHz
Current Consumption	: Less than 2.5 A (0.5W 4-Speaker)
Speaker Impedance	: 4 Ω (4-8Ω acceptable)

AM Radio

Frequence Range	: 530 - 1,710kz
Useable Sensitivity	: 28 dB/μV (25 μV/ S/N 20dB)

FM Stereo Radio

Frequency Range	: 87.9 - 107.9MHz
Useable Sensitivity	: 12 dBf. (1.1μV/75 Ω, S/N 30 dB)
50 dB Quieting Sensitivity	: 17 dBf. (2.0 μV/75Ω)
Frequency Response	: 30 - 15,000Hz ± 3dB
Alternate Channel Sensitivity	: 75 dB
Stereo Separation	: 35 dB at 1,000Hz
Signal/Noise Ratio	: 70 dB (Mono)

WB Radio

Freuency Range	: 162.40 - 162.55MHz
Useable Sensitivity	: 3 dB (S/N 20dB)
Signal/Noise Ratio	: 50 dB (40 dB/μV)

Tape Player

Reproduction System	: 4- track, 2-program stereo
Tape Speed	: 1-7/8" /sec (4.76cm/sec)
FF/REW Time	: Less than 110 sec (C-60)
Frequency Responce	:35-14,000Hz(±3dB,normal) 35-17,000Hz(±3dB,metal)
Wow and Fluter	: 0.12% (WRMS)
Signal/Noise Ratio	: 52 dB 62 dB (Dolby B NR ON)

Dimentions **	: 7"x 1-15/16" x 5-7/8" (178 x 50 x 150mm)
Weight **	: 3 lbs. 8 oz (1.6kg)

* Specifications and the design are subject to possible modification
** without notice due to improvements.
Dimentions and weight shown are approximate.
*** Above specifications comply with EIA standards.

law.

⚠ WARNING

This service information is designed for experienced repair technicians only and is not designed for use by the general public.
It does not contain warnings or cautions to advise non-technical individuals of potential dangers in attempting to service a product.
Products powered by electricity should be serviced or repaired only by experienced professional technicians. Any attempt to service or repair the product or products dealt with in this service information by anyone else could result in serious injury or death.

Panasonic®

IMPORTANT SAFETY NOTICE

There are special components used in this equipment which are important for safety. These parts are marked by ⚠ in the Schematic Diagrams, Circuit Board Diagrams, Exploded Views and Replacement Parts List. It is essential that these critical parts should be replaced with manufacturer's specified parts to prevent shock, fire or other hazards. Do not modify the original design without permission of manufacturer.

1. FEATURES

- 24-Stations Preset (6-FM1, 6-FM2, 6-W/B, 6-AM)
- Metal (CrO2)/Normal Tape Selector
- Electronic Control of Volume, Bass, Treble, Balance and Fader
- S.HDB (Super High Difinition Bass) function
- Dolby NR function
- CD Changer Control function
- TPS (Tape Program Search) function
- RESET SWITCH

2. REPLACING THE FUSE

Be sure to a fuse of the specified rating (10A) when replacing a blown fuse. Fuses with higher capacity ratings, use of any substitute, or connection without a fuse may result in a fire hazard or damage to the unit.

3. MAINTENANCE

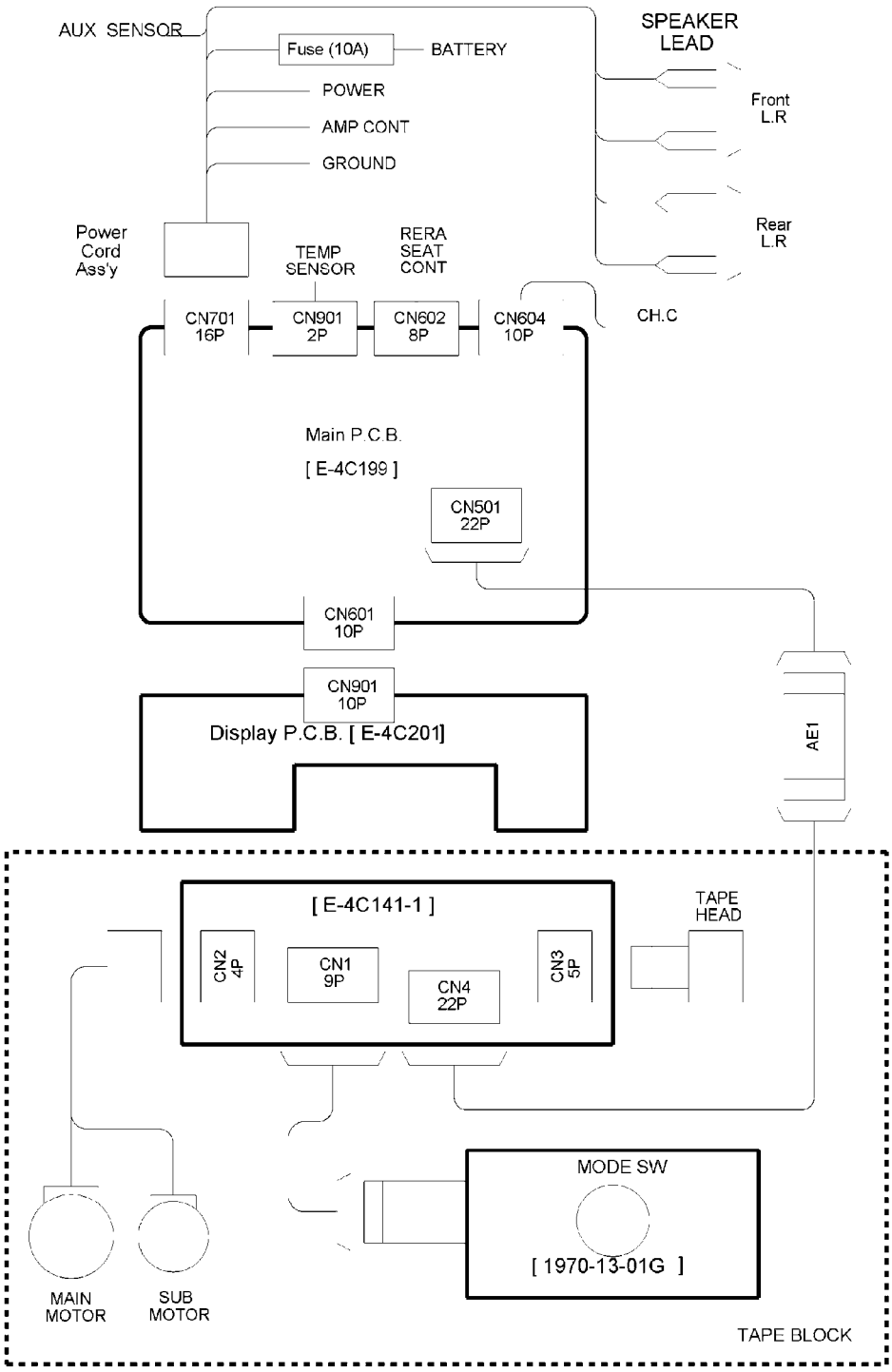
Your product is designed and manufactured to ensure a minimum of maintenance. Use a soft cloth for routine exterior cleaning. Never use benzine, thinner or other solvent.

4. RADIO ALIGNMENT

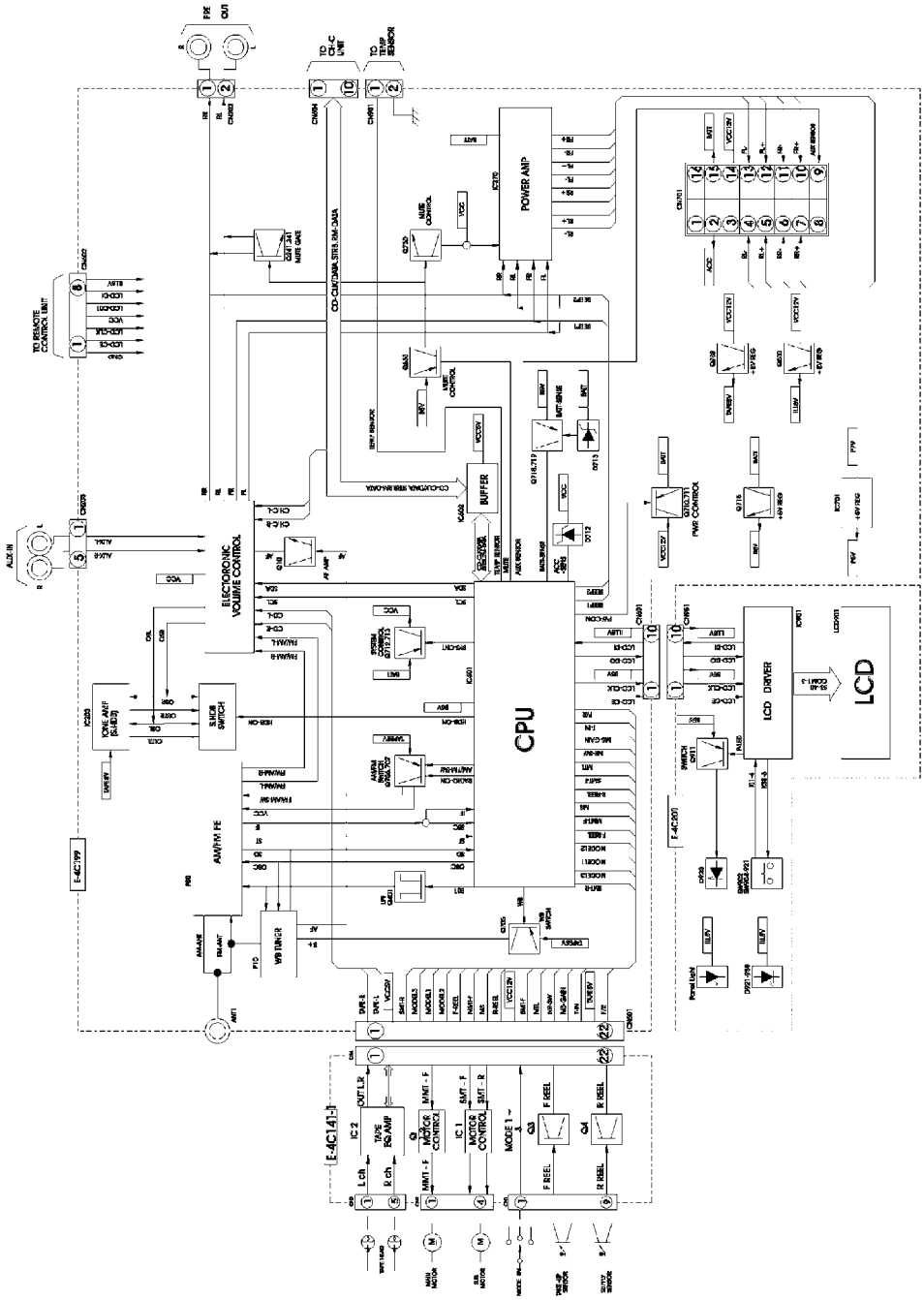
Do not align the AM/FM package blocks. When the package block is necessary, it will be supplied already aligned at the factory.

5. DIMENSIONS

6. WIRING CONNECTION



7. BLOCK DIAGRAM



8. ALIGNMENT INSTRUCTIONS

8.1. Alignment Conditions

- **Power Supply Voltage : DC14.4V**
- **Output Impedance : 4 Ω**
- **Output Power : 0.5W**
- **Balance, Fader Control : Center**
- **Bass, Treble Control : Center**

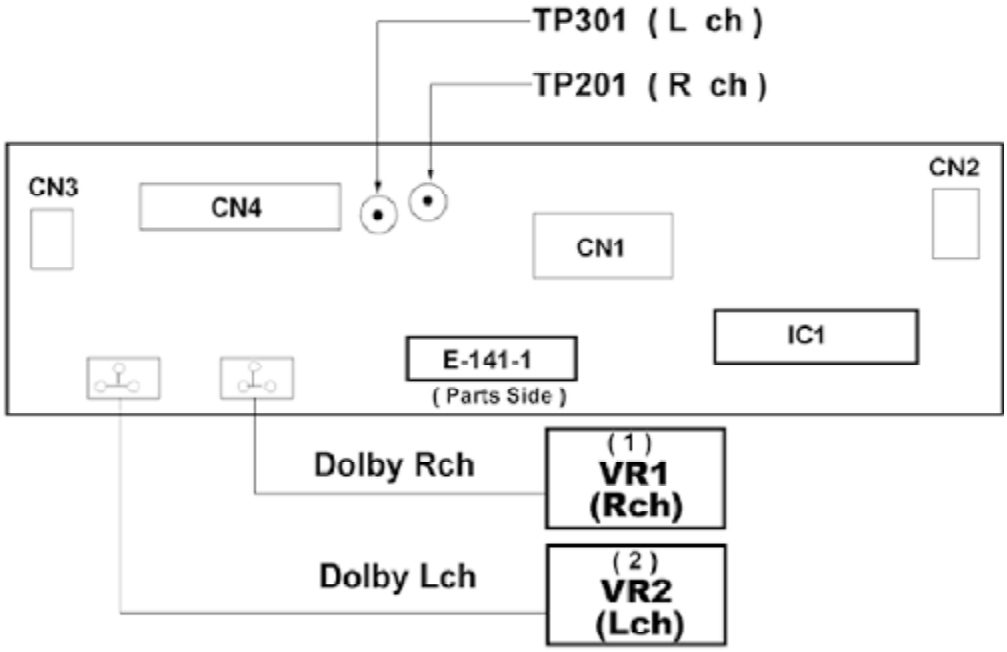
Note:

Do not align the FM/AM package blocks. When the package block is necessary, it will be supplied already aligned at the factory.

8.2. Dolby NR Alignment

Step	Alignment Item	Test Tape	VTVM Connection	Adjust	Remarks
1	DOLBY NR Rch	RFKZ0038	TP201	VR1	Adjust for 388mV ±
2	DOLBY NR Lch	RFKZ0038	TP301	VR2	Adjust for 388mV ±

8.3. Alignment Points



9. WIRING DIAGRAM (Tape Block)

10. WIRING DIAGRAM (Display Block)

11. WIRING DIAGRAM (Main Block)

12. SCHEMATIC DIAGRAM (Tape Block)

13. SCHEMATIC DIAGRAM (Display Block)

14. SCHEMATIC DIAGRAM (Main Block)

15. TERMINALS DESCRIPTION

15.1. Main Block

IC601 YEAM17708614

Pin No.	Name	Description	I/O	Vol. (V)		
				AM	FM	TAPE
1	BATT	Battery Detection	I	5.3	2.5	5.3
2	(NC)	(Connect to Ground)	-	-	-	-
3	MODE2	Tape Detection input	I	4.7	4.7	4.7
4	(NC)	(Connect to Ground)	-	-	-	-
5	MS	No sound Detection (TPS)	I	O	O	O
6	R-REEL	Reel Pulse Detection(R)	I	1.5	2.3	3
7	F-REEL	Reel Pulse Detection(F)	I	1.4	2	3.1
8	(NC)	-	-	-	-	-
9	ST	Stereo Signal Input	I	4.6	4.6	4.6
10	MTL	Deck Metal Output H:ON L:OFF	O	0	0	0
11	DOLBY ON/OFF	Dolby NR ON/OFF H:OFF L:ON	O	0	0	0
12	(NC)	-	-	-	-	-
13	MS GAIN	Music Search Gain Control	O	0	0	0
14	ACC	ACC Detection	I	5.2	5.2	5.2
15	MMT-F	Main Motor Control	I/O	4.8	4.8	4.8
16	CD MUTE	Main Motor Control	I/O	0	0	0
17	FM/AM BW	FM/AM Select Switch	O	8.1	0	0.1
18	RADIO ON	AM/FM Tuner ON	O	0	0	0.1
19	WB	W/B Tuner ON	O	7.1	7.1	7.1
20	SSC	FM/AM SSC Control	O	0	0	0
21	GND	Ground	-	0	0	0
22	(NC)	-	-	-	-	-
23	(NC)	-	-	-	-	-
24	INIT B	(Pull-down)	-	0	0	0
25	INIT A	(Connect to Ground)	-	0	0	0
26	SD FM	FM SD Input	I	0.2	0.7	0.7
27	SD AM	AM SD Input	I	2.4	2.4	2.7
28	AMIFC	AM IF Input	I	0	0	0
29	FMIFC	FM IF Input	I	1.2	1.6	2.5

Pin No.	Name	Description	I/O	Vol. (V)		
				AM	FM	TAPE
30	VDD	Power supply +5V	-	4.8	4.8	4.8
31	FM/AM OSC	FM OSC Input	I	2.6	2.6	2.6
32	WB OSC	WB OSC Input	I	0	0	0
33	GND	Ground	-	0	0	0
34	E01	FM / AM VT Output	O	1.5	1.5	1.5
35	E02 (NC)	-	-	-	-	-
36	(NC)	(Connect to Ground)	-	-	-	-
37	MONO (NC)	-	-	-	-	-
38	LOC (NC)	-	-	-	-	-
39	BEEP1	Beep Sound Output 1	O	0	0	0
40	BEEP2	Beep Sound Output 2	O	0	0	0
41	CD CLK2	CD Clock 2	I	4.7	4.7	4.7
42	CDC STB	CD Changer Strobe	I	2.3	2.3	2.3
43	TIN/T EXIST	Tape-in Switch Signal input	I	0	0	0
44	(NC)	-	-	-	-	-
45	(NC)	-	-	-	-	-
46	F/R	Forward/Reverse Select Signal	O	0	4.7	0
47	PW CNT	System Power Control	O	4.7	4.7	4.7
48	SYS CNT	AMP ST-BY Control	O	4.8	4.8	4.8
49	MUTE	Mute Control L: mute ON	O	4.8	4.8	4.8
50	PL ON (NC)	-	-	-	-	-
51	HDB ON	S HDB ON Signal Output	O	4.8	4.8	4.8
52	(NC)	-	-	-	-	-
53	CDC SELECT (NC)	-	-	-	-	-
54	(NC)	-	-	-	-	-
55	LCD D01 (NC)	-	-	-	-	-
56	LCD CLK	LCD Clock	O	0	0	0

Pin No.	Name	Description	I/O	Vol. (V)		
				AM	FM	TAPE
57	LCD DI (MO)	LCD Data input	O	0	0	0
58	LCD CE	LCD Chip Enble	O	0.3	0.3	0
59	LCD DO(MI)	LCD Data Output	I	5.3	5.3	5.3
60	(NC)	-	-	-	-	-
61	(NC)	-	-	-	-	-
62	REMOUT	Remoto Data Output	O	4.8	4.8	4.8
63	12C DATA	12C Data	I	0	5	4.9
64	12C CLK	12C Clock	O	5	5	5
65	CDC CLK	CD Changer Clock	I	2	2.3	2.3
66	MOTOR ANT (NC)	-	-	-	-	-
67	CDC DATA	CD Changer Data	I	2	2.3	2.3
68	MOD3	Tape Deck Mode3	O	4.8	4.8	4.8
69	MODE2 (NC)	-	-	-	-	-
70	MODE1	Tape Deck Mode1	I	4.8	4.8	4.8
71	SMT-R	Sub Motor Control (R)	I	4.8	4.8	4.8
72	SMT-F	Sub Motor Control (F)	O	0	4.8	0
73	TELMUTE	Telephone Mute Control	I	4.7	4.7	4.7
74	VTER (NC)	-	-	-	-	-
75	GND	Ground	-	0	0	0
76	X OUT	Crystal Oscilator	O	2.3	2.3	2.3
77	X IN	Crystal Oscilator	I	1.8	1.8	2
78	CE	Chip Enable	I	4.8	4.8	4.8
79	VDD	Power supply +5V	-	4.8	4.8	4.8
80	RESET	Reset input	I	4.8	4.8	4.8

15.2. Display Block

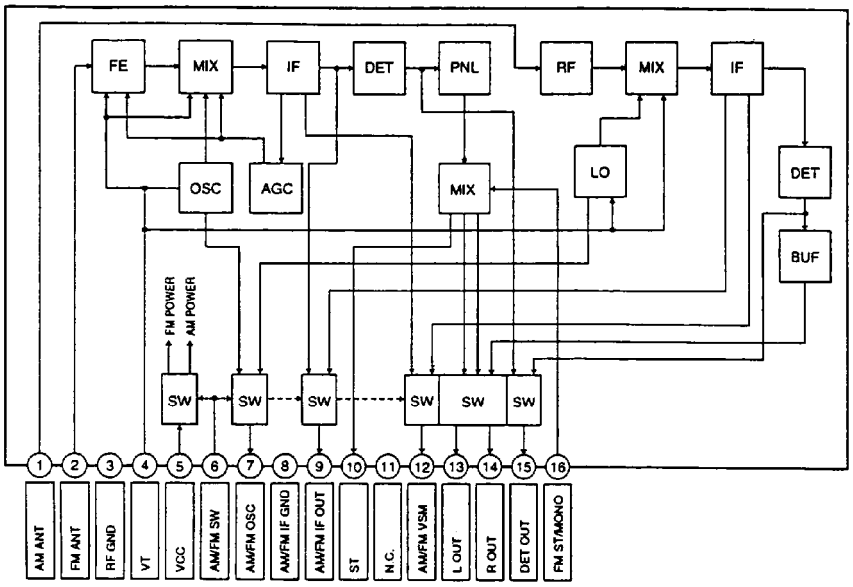
IC901 YEAMLC75853E

Pin No.	Name	Description	I/O	Volt (V)
1	(NC)	-	-	-
2	P.LED	LED Indicator Signal Output	O	0
3~40	S3~S40	LCD Segment	O	2.7
41	COM1	LCD Common	O	2.7
42	COM2	LCD Common	O	2.7
43	COM3	LCD Common	O	2.7
44~49	KS1~KS6	Key Data Output	O	5.3
50~54	K11~K15	Key Data Input	I	0
55	TEST	(Connect to Ground)	-	0
56	VDD	+5V Power Supply	-	5.3
57	VDD1	+5V Power Supply	-	3.5
58	VDD2	+5V Power Supply	-	1.8
59	VSS	(Connect to Ground)	-	0
60	OSC	CR Oscillator	-	3.9
61	DO	LCD Data Output	O	5.2
62	CE	Chip Enable	I	0.3
63	CLK	LCD Clock Input	I	0
64	DI	LCD Data Input	I	0

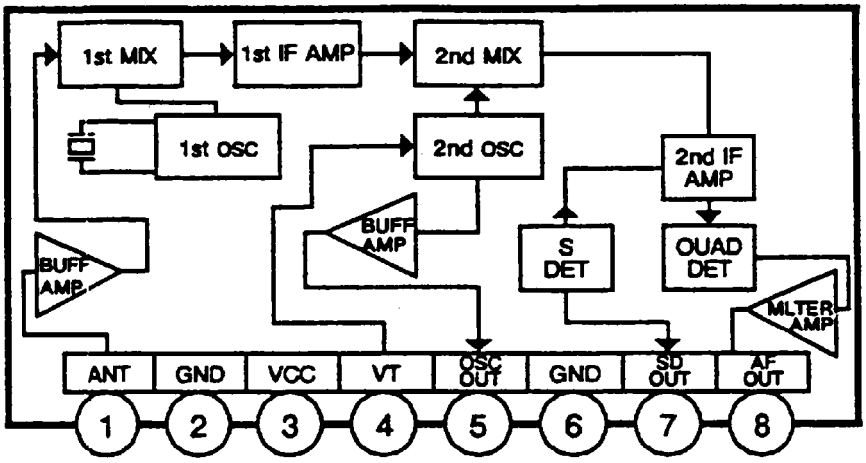
16. PACKAGE AND IC BLOCK DIAGRAM

16.1. Main Block

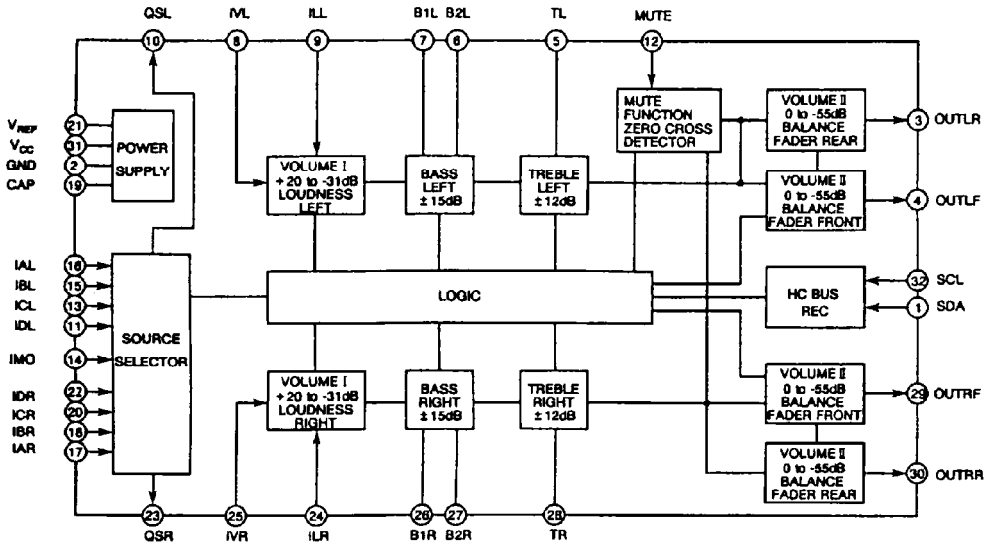
P50 YEAU4CMXU01



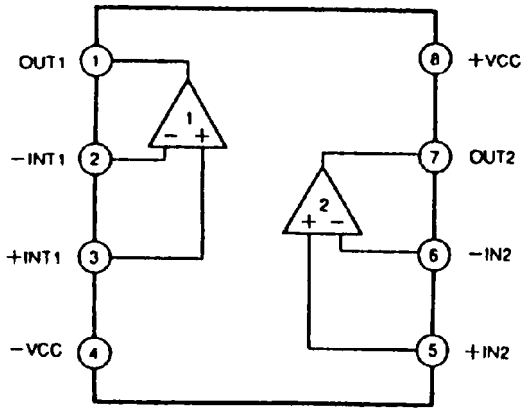
P10 YEAU034CSU02



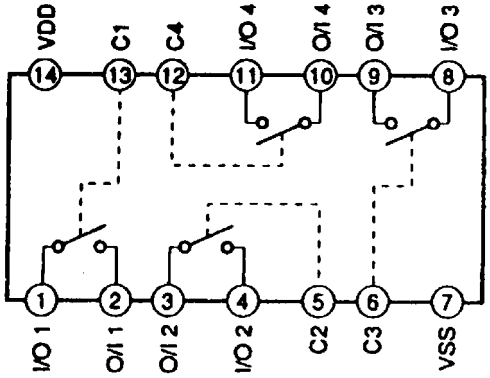
IC205 YEAMEA6320TT



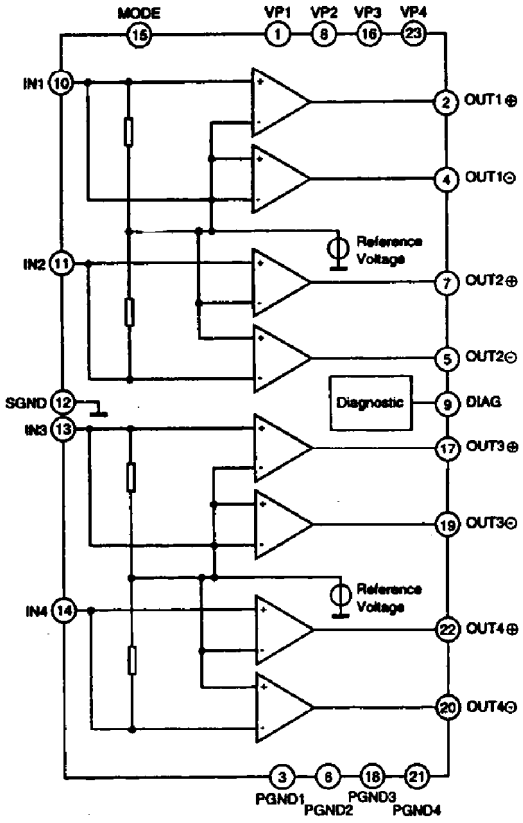
IC203 AN6552S-E1



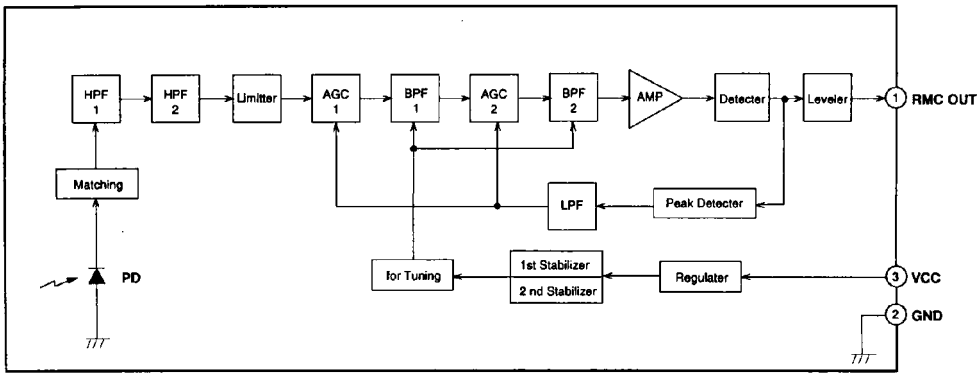
IC204 YEAMBU4066F2



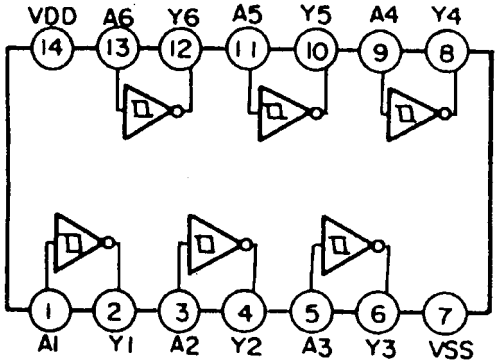
IC270 YEAMTDA8571J



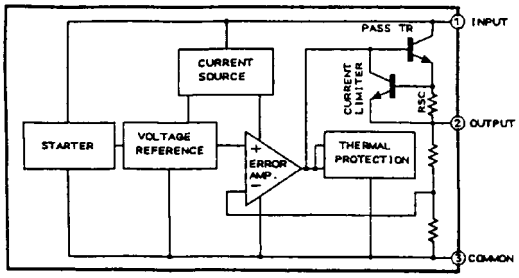
IC902 YEAMSBX8035F



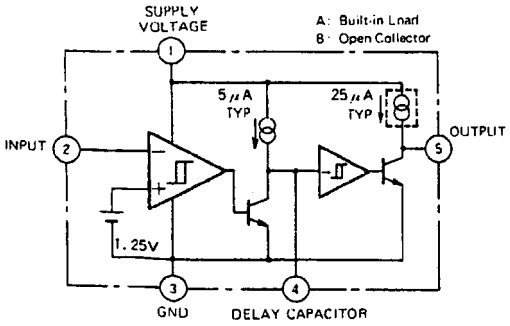
IC602 YEAMTC4584FN



IC701 AN78N05

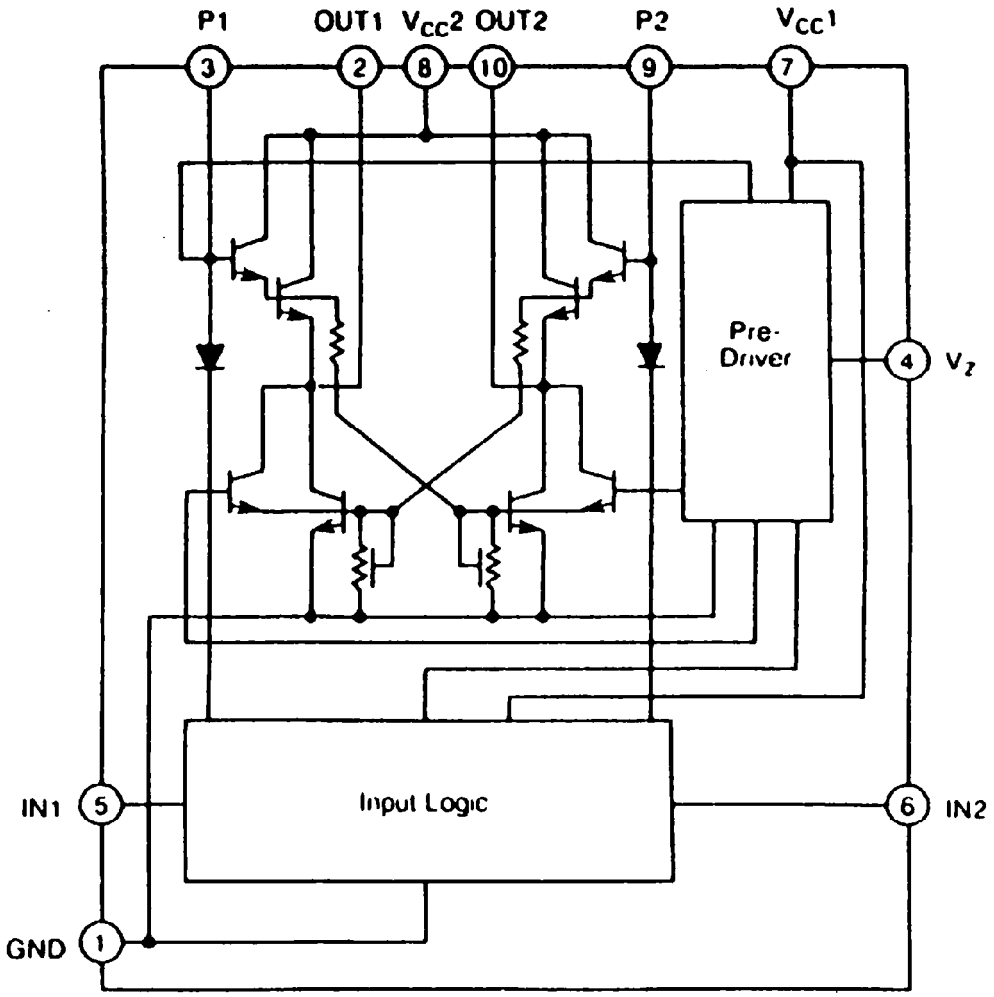


IC800 YEAMM51957AL

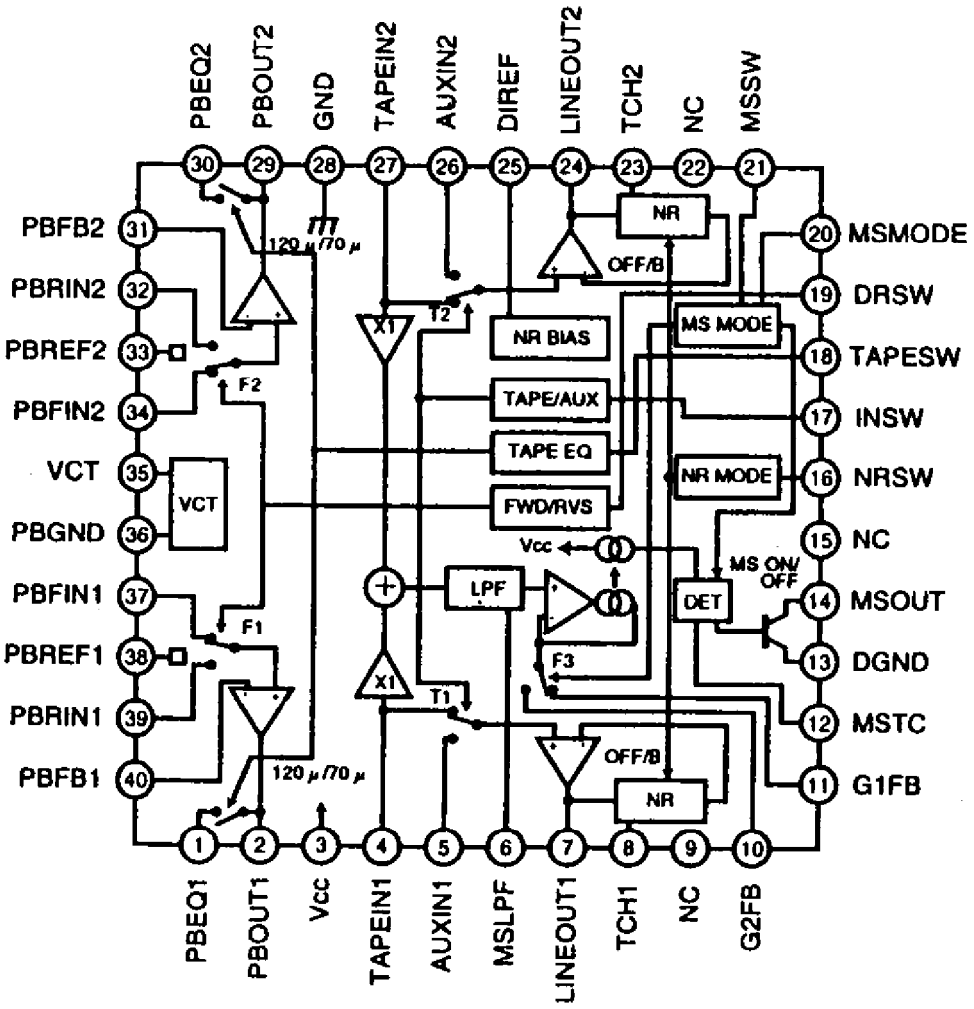


16.2. Tape Block

IC1 YEAMLB1641



IC2 YEAMCXA2510Q



17. REPLACEMENT PARTS LIST (Unit)

Note:

1. Be sure to make your orders of replacement parts according to this list.
2. Important safty notice: Component, indentified by ⚠ mark have special characteristics important for safety. when replacing any of these components, use only manufacturer's specified parts.
3. Location keys in the remarks column indicates the general location of the parts shown in the exploded drawing, as in a load map.
4. The marking (RTL) indicates that Retention Time is linited for this item. After the discontinuation of assembly in production, the item will continue to be availability is dependent on the type of assembly, and in accordance with the laws governing part and product retention. Afl the end of this period, the assembly will no longer be available.
5. "T" marks in remarks colum are indicated supply parts of TAMACO.

Ref. No.	Part No.	Part Name & Description	Remarks
1.1. IC's and Transistors			
MAIN BLOCK [E-4C199]			
IC203	AN6552S-E1	IC	T
IC204	YEAMBU4066F2	IC	T
IC205	YEAMEA6320TT	IC	T
IC270	YEAMTDA8571J	IC	T
IC601	YEAM17708620	IC	T
IC602	YEAMTC4584FN	IC	T
IC701	AN78N05	IC	
IC715	AN78N05	IC	
IC800	YEAMM51957AL	IC	
P10	YEAU034CSU03	Weather Band Tuner Pack	T
P50	CT-U02A	FM/AM Tuner Pack	T
Q1	YEANC144ST	Transistor	T
Q2	YEANB123YST	Transistor	T
Q10	YEAN2SC3330T	Transistor	T
Q241	YEANDTC323ST	Transistor	T
Q341	YEANDTC323ST	Transistor	T
Q401	YEAN2SK583T	Transistor	T
Q630	YEANDTA144ST	Transistor	T
Q703	YEANC114YST	Transistor	T
Q705	YEANB123YST	Transistor	T
Q706	YEANA123YST	Transistor	T
Q707	YEANB123YST	Transistor	T
Q708	YEAN2SD2007T	Transistor	T
Q710	YEANB1243QRT	Transistor	T
Q711	YEANC114YST	Transistor	T
Q712	YEANB123YST	Transistor	T
Q713	YEANC114YST	Transistor	T
Q718	YEANDTA144ST	Transistor	T
Q800	YEAND1762EF	Transistor	T
Q900	YEAN2SD2007T	Transistor	T
DISPLAY BLOCK [E-4C201]			
IC901	YEAMLC75853E	IC	T
IC902	YEAMSBX8035F	IC	T
Q911	YEANA114EKTX	Transistor	T
TAPE BLOCK [E-4C141-1]			
IC1	YEAMLB1641	IC	T
IC2	YEAMCXA2510Q	IC	T
Q1	YEANB1237QRT	TrANSISTOR	T
Q2	YEANC113ZKTX	Transistor	T
Q3	YEANC113ZKTX	Transistor	T
Q4	YEANC113ZKTX	Transistor	T
1.2. Diodes			
MAIN BLOCK [E-4C199]			
D4	YEADMTZ91BT	Zener Diode	T
D5	YEADRD51JS3T	Zener Diode	T

Ref. No.	Part No.	Part Name & Description	Remarks
D10	YEAD1N4005T	Silicon Diode	T
D25	MA856TA	Diode	
D26	YEAD1N4148C	Diode	T
D27	YEAD1N4148C	Diode	T
D50	YEAD1N4148C	Diode	T
D51	MA856TA	Diode	
D60	YEADRD56JS3T	Zener Diode	T
D61	YEADRD56JS3T	Zener Diode	T
D62	YEADRD56JS3T	Zener Diode	T
D63	YEADRD56JS3T	Zener Diode	T
D201	YEAD1N4148C	Diode	T
D255	YEAD1N4005T	Silicon Diode	T
D256	YEAD1N4005T	Silicon Diode	T
D257	YEAD1N4005T	Silicon Diode	T
D258	YEAD1N4005T	Silicon Diode	T
D355	YEAD1N4005T	Silicon Diode	T
D356	YEAD1N4005T	Silicon Diode	T
D357	YEAD1N4005T	Silicon Diode	T
D358	YEAD1N4005T	Silicon Diode	T
D401	YEADMTZ10CT	Silicon Diode	T
D701	YEADSR10A08G	Silicon Diode	T
D702	YEAD1N4005T	Diode	T
D704	YEADMTZ91BT	Zener Diode	T
D708	MA700TA	Diode	T
D709	YEADRD51JS3T	Zener Diode	
D710	YEAD1N4148C	Diode	T
D712	YEADRD51JS3T	Zener Diode	T
D715	YEAD1N4005T	Silicon Diode	T
D802	YEAD1N4005T	Silicon Diode	T
D900	YEADMTZ91BT	Zener Diode	T
D901	MA700TA	Diode	T
D902	MA700TA	Diode	T
DISPLAY BLOCK [E-4C201]			
D700	SLR342MGT31	LED (Green)	T
D920	SLR342VRT31	LED (RED)	T
D921	SLR342MGT31	LED (Green)	T
D922	SLR342MGT31	LED (Green)	T
D923	SLR342MGT31	LED (Green)	T
D924	SLR342MGT31	LED (Green)	T
D925	SLR342MGT31	LED (Green)	T
D926	SLR342MGT31	LED (Green)	T
D927	SLR342MGT31	LED (Green)	T
D929	SLR342MGT31	LED (Green)	T
D930	SML210MTX	LED (Green)	T
D931	SML210MTX	LED (Green)	T
D935	SML210MTX	LED (Green)	T
D936	SLR342MGT31	LED (Green)	T
D937	SLR342MGT31	LED (Green)	T
D938	SLR342MGT31	LED (Green)	T
D939	SLR342MGT31	LED (Green)	T
D940	SLR342MGT31	LED (Green)	T
D942	SML210MTX	LED (Green)	T

Ref. No.	Part No.	Part Name & Description	Remarks
TAPE BLOCK [E-4C141-1]			
D1	YEAD1A3T	Diode	T
D2	YEADMTZ43BT	Zener Diode	T
1.3. Capacitors			
MAIN BLOCK [E-4C199]			
C2	ECEA1AKS221I	Electrolytic 2200MFD 10WV	
C4	ECEA1AKS220I	Electrolytic 22MFD 10WV	
C9	ECUV1H104ZFN	Electrolytic 0.1MFD 50WV	T
C10	ECUV1H103KBM	Ceramic 0.01MFD 50WV	T
C11	ECUV1C474KBN	Ceramic 0.47MFD 16WV	T
C12	ECUV1H103KBN	Ceramic 0.01MFD 50WV	T
C17	ECUV1H102KBN	Ceramic 1000pF 50WV	T
C21	ECEA1HKS010I	Electrolytic 1MFD 50WV	
C22	ECEA1AKS010I	Electrolytic 1MFD 10WV	
C51	ECEA1CKS470I	Electrolytic 47MFD 16WV	
C52	ECUV1H103KBN	Ceramic 0.01MFD 50WV	T
C54	ECUV1H103KBN	Ceramic 0.01MFD 50WV	T
C57	ECUV1H273KBN	Ceramic 0.027MFD 50WV	T
C58	ECUV1H273KBN	Ceramic 0.027MFD 50WV	T
C60	ECUV1H103KBM	Ceramic 0.01MFD 50WV	T
C61	ECUV1H102KBN	Ceramic 1000pF 50WV	T
C66	ECUV1H103KBN	Ceramic 0.01MFD 50WV	T
C207	ECUV1C224KBN	Ceramic 0.22MFD 16WV	T
C217	ECUV1H104ZFN	Ceramic 0.1MFD 50WV	T
C218	ECUV1H104ZFN	Ceramic 0.1MFD 50WV	T
C220	ECUV1H123KBN	Ceramic 0.012MFD 50WV	T
C221	ECEA1HKS010I	Electrolytic 1MFD 50WV	
C222	ECUV1H103KBN	Ceramic 0.01MFD 50WV	T
C223	ECEA0JKS470I	Electrolytic 47MFD 6.3WV	
C232	ECEA1CKS100I	Electrolytic 10MFD 16WV	
C233	ECUV1C224KBN	Ceramic 0.22MFD 16WV	T
C234	ECUV1C224KBN	Ceramic 0.22MFD 16WV	T
C237	ECUV1H333KBN	Ceramic 0.033MFD 50WV	T
C238	ECUV1H562KBN	Ceramic 5600pF 50WV	T
C239	ECEA1HKS3R3I	Ceramic 3.3MFD 50WV	
C240	ECEA1HKS3R3I	Ceramic 3.3MFD 50WV	
C241	ECEA1HKS010I	Electrolytic 1MFD 50WV	
C242	ECEA1HKS010I	Electrolytic 1MFD 50WV	
C249	ECUV1H222KBN	Ceramic 2200pF 50WV	T
C250	ECUV1H222KBN	Ceramic 2200pF 50WV	T
C253	ECEA1CKS100I	Electrolytic 10MFD 16WV	
C255	ECUV1H683KBM	Ceramic 0.068MFD 50WV	T
C256	ECUV1H683KBN	Ceramic 0.068MFD 50WV	T
C257	ECUV1H683KBM	Ceramic 0.068MFD 50WV	T
C258	ECUV1H683KBM	Ceramic 0.068MFD 50WV	T
C259	ECUV1H221KBN	Ceramic 220pF 50WV	T
C262	ECUV1H221KBN	Ceramic 220pF 50WV	T
C263	ECUV1H221KBN	Ceramic 220pF 50WV	T
C264	ECUV1H221KBN	Ceramic 220pF 50WV	T

Ref. No.	Part No.	Part Name & Description	Remarks
C265	ECUV1H221KBN	Ceramic 220pF 50WV	T
C266	ECUV1H221KBN	Ceramic 220pF 50WV	T
C267	ECUV1H102KBN	Ceramic 0.001MFD 50WV	T
C268	ECUV1H221KBN	Ceramic 220pF 50WV	T
C269	ECUV1H102KBM	Ceramic 0.001MFD 50WV	T
C270	ECUV1H102KBN	Ceramic 0.001MFD 50WV	T
C271	ECUV1H224YNY	Ceramic 0.22MFD 50WV	T
C272	ECUV1H221KBN	Ceramic 220pF 50WV	T
C307	ECUV1C224KBN	Ceramic 0.22MFD 16WV	T
C317	ECUV1H104ZFN	Ceramic 0.1MFD 50WV	T
C318	ECUV1H104ZFN	Ceramic 0.1MFD 50WV	T
C320	ECUV1H123KBN	Ceramic 0.012MFD 50WV	T
C321	ECEA1HKS010I	Electrolytic 1MFD 50WV	
C322	ECUV1H103KBN	Ceramic 0.01MFD 50WV	T
C323	ECEA0JKS470I	Electrolytic 47MFD 6.3WV	
C324	ECEA1AKS470I	Electrolytic 47MFD 10WV	
C325	ECEA1AKS101I	Ceramic 100MFD 10WV	
C331	ECEA1HKS3R3I	Ceramic 3.3MFD 50WV	
C332	ECEA1CKS100I	Electrolytic 10MFD 16WV	
C333	ECUV1C224KBN	Ceramic 0.22MFD 16WV	T
C334	ECUV1C224KBN	Ceramic 0.22MFD 16WV	T
C337	ECUV1H333KBN	Ceramic 0.033pF 50WV	T
C338	ECUV1H562KBM	Ceramic 5600pF 50WV	T
C339	ECEA1HKS3R3I	Ceramic 3.3MFD 50WV	
C340	ECEA1HKS3R3I	Ceramic 3.3MFD 50WV	
C341	ECEA1HKS010I	Electrolytic 1MFD 50WV	
C342	ECEA1HKS010I	Electrolytic 1MFD 50WV	
C349	ECUV1H222KBN	Ceramic 2200pF 50WV	T
C350	ECUV1H222KBN	Ceramic 2200pF 50WV	T
C353	ECEA1CKS100I	Electrolytic 10MFD 16WV	
C355	ECUV1H683KBN	Ceramic 0.068MFD 50WV	T
C356	ECUV1H683KBM	Ceramic 0.068MFD 50WV	T
C357	ECUV1H683KBM	Ceramic 0.068MFD 50WV	T
C358	ECUV1H683KBN	Ceramic 0.068MFD 50WV	T
C359	ECUV1H102KBN	Ceramic 0.001MFD 50WV	T
C360	ECUV1H102KBM	Ceramic 0.001MFD 50WV	T
C361	ECUV1H102KBM	Ceramic 0.001MFD 50WV	T
C362	ECUV1H102KBN	Ceramic 0.001MFD 50WV	T
C363	ECUV1H102KBN	Ceramic 0.001MFD 50WV	T
C364	ECUV1H102KBN	Ceramic 0.001MFD 50WV	T
C365	ECUV1H102KBN	Ceramic 0.001MFD 50WV	T
C366	ECUV1H102KBN	Ceramic 0.001MFD 50WV	T
C401	ECEA1VSN4R7I	Ceramic 4.7MFD 35WV	
C408	ECUV1H102KBN	Ceramic 0.001MFD 50WV	T
C402	ECEA1AKS101I	Ceramic 100MFD 10WV	
C403	ECUV1H104ZFN	Ceramic 0.1MFD 50WV	T
C411	ECUV1H334KBN	Ceramic 0.33MFD 50WV	T
C412	ECUV1H154ZFN	Ceramic 0.15MFD 50WV	T
C600	ECUV1H104ZFN	Ceramic 0.1MFD 50WV	T
C601	ECUV1H220JCN	Ceramic 22pF 50WV	T
C602	ECUV1H220JCN	Ceramic 22pF 50WV	T
C608	ECUV1H103KBN	Ceramic 0.01MFD 50WV	T
C614	YEECFYH0H223	Axial 0.022MFD 5.5WV	T
C625	ECUV1H101KBN	Ceramic 100MFD 50WV	T

Ref. No.	Part No.	Part Name & Description	Remarks
C626	ECUV1H680JCN	Ceramic 68pF 50WV	T
C630	ECEA1CKS470I	Electrolytic 47MFD 16WV	
C631	ECEA1HKS010I	Electrolytic 1MFD 50WV	
C632	ECEA1CKS100I	Electrolytic 10MFD 16WV	
C654	ECUV1H104ZFN	Ceramic 0.1MFD 50WV	T
C655	ECUV1H104ZFN	Ceramic 0.1MFD 50WV	T
C656	ECUV1H104ZFM	Ceramic 0.1MFD 50WV	T
C657	ECUV1H221KBN	Ceramic 220pF 50WV	T
C658	ECUV1H221KBN	Ceramic 220pF 50WV	T
C701	ECEA0JKS101I	Ceramic 100MFD 6.3WV	T
C703	ECUV1H103KBN	Ceramic 0.01MFD 50WV	T
C705	ECEA1CKS101I	Ceramic 100MFD 16WV	
C707	ECEA1AKS221I	Ceramic 220MFD 10WV	
C708	ECEA1AKS221I	Ceramic 220MFD 10WV	
C659	ECUV1H104ZFN	Ceramic 0.1MFD 50WV	T
C709	ECEA1AKS221I	Ceramic 220MFD 10WV	
C715	ECEA0JKS331I	Ceramic 330MFD 6.3WV	
C717	ECEA1CKS100I	Electrolytic 10MFD 16WV	
C718	ECEA1HKS010I	Electrolytic 10MFD 50WV	
C719	ECUV1H103KBM	Ceramic 0.01MFD 50WV	T
C720	ECEA1VU472YC	Electrolytic 4700MFD 35WV	
C721	ECEA1AKS221I	Ceramic 220MFD 10WV	
C722	ECUV1H103KBN	Ceramic 0.01MFD 50WV	T
C733	ECUV1H103KBN	Ceramic 0.01MFD 50WV	T
C799	ECEA1CU222C	Electrolytic 2200MFD 35WV	
C900	ECUV1H104KBN	Ceramic 0.1MFD 50WV	T
C950	ECEA1HKS010I	Electrolytic 1MFD 50WV	
DISPLAY BLOCK [E-4C201]			
C901	ECUV1H104ZFN	Ceramic 0.1MFD 50WV	T
C911	ECUV1H102KBN	Ceramic 0.001MFD 50WV	T
C913	ECUV1H104ZFN	Ceramic 0.1MFD 50WV	T
C914	ECUV1H104ZFN	Ceramic 0.1MFD 50WV	T
TAPE BLOCK [E-4C141-1]			
C1	ECUV1H103KBN	Ceramic 0.01MFD 50WV	T
C2	ECUV1H103KBN	Ceramic 0.01MFD 50WV	T
C3	ECUV1H103KBN	Ceramic 0.01MFD 50WV	T
C4	ECUV1H103KBN	Ceramic 0.01MFD 50WV	T
C5	ECEA1AKS330IV	Electrolytic 33MFD 10WV	
C6	ECEA1CKS470IV	Electrolytic 47MFD 16WV	
C7	ECEA1CKS470IV	Electrolytic 47MFD 16WV	
C8	ECEA1HKS2R2IV	Ceramic 2.2MFD 50WV	
C9	ECEA1HKS2R2IV	Ceramic 2.2MFD 50WV	
C10	ECUV1H104KBN	Ceramic 0.1MFD 50WV	T
C11	ECUV1H104KBN	Ceramic 0.1MFD 50WV	T
C12	ECUV1H104KBN	Ceramic 0.1MFD 50WV	T
C15	ECUV1H223KBN	Ceramic 0.022MFD 50WV	T
C16	ECUV1C224KBN	Ceramic 0.22MFD 16WV	T
C17	ECEA1CKS100IV	Electrolytic 10MFD 16WV	
C18	ECEA1CKS100IV	Electrolytic 10MFD 16WV	
C19	ECUV1H271KCN	Ceramic 270MFD 50WV	T

Ref. No.	Part No.	Part Name & Description	Remarks
C20	ECUV1H271KCN	Ceramic 270MFD 50WV	T
C21	ECUV1H271KCN	Ceramic 270MFD 50WV	T
C22	ECUV1H271KCN	Ceramic 270MFD 50WV	T
C24	ECUV1H822KBN	Ceramic 8200pF 50WV	T
1.4. Resistors			
MAIN BLOCK [E-4C199]			
J1	ERJ8GX0R00V	Chip 0 ohms 1/8W	T
J2	ERJ8GX0R00V	Chip 0 ohms 1/8W	T
J3	ERJ8GX0R00V	Chip 0 ohms 1/8W	T
J4	ERJ8GX0R00V	Chip 0 ohms 1/8W	T
J5	ERJ6GEY0R00V	Chip 0 ohms 1/10W	T
J6	ERJ8GX0R00V	Chip 0 ohms 1/8W	T
J7	ERJ8GX0R00V	Chip 0 ohms 1/8W	T
J8	ERJ8GX0R00V	Chip 0 ohms 1/8W	T
J9	ERJ8GX0R00V	Chip 0 ohms 1/8W	T
J10	ERJ8GX0R00V	Chip 0 ohms 1/8W	T
J11	ERJ8GX0R00V	Chip 0 ohms 1/8W	T
J12	ERJ8GX0R00V	Chip 0 ohms 1/8W	T
J20	ERJ6GEY0R00V	Chip 0 ohms 1/10W	T
J22	ERJ6GEY0R00V	Chip 0 ohms 1/10W	T
J26	ERJ8GX0R00V	Chip 0 ohms 1/8W	T
J31	ERJ8GX0R00V	Chip 0 ohms 1/8W	T
J41	ERJ6GEY0R00V	Chip 0 ohms 1/10W	T
J42	ERJ8GX0R00V	Chip 0 ohms 1/8W	T
J44	ERJ8GX0R00V	Chip 0 ohms 1/8W	T
J45	ERJ6GEY0R00V	Chip 0 ohms 1/10W	T
J48	ERJ6GEY0R00V	Chip 0 ohms 1/10W	T
J49	ERJ8GX0R00V	Chip 0 ohms 1/8W	T
J71	ERJ6GEY0R00V	Chip 0 ohms 1/10W	T
J72	ERJ8GX0R00V	Chip 0 ohms 1/8W	T
J73	ERJ8GX0R00V	Chip 0 ohms 1/8W	T
J75	ERJ8GX0R00V	Chip 0 ohms 1/8W	T
J80	ERJ8GX0R00V	Chip 0 ohms 1/8W	T
J81	ERJ6GEY0R00V	Chip 0 ohms 1/10W	T
J82	ERJ6GEY0R00V	Chip 0 ohms 1/10W	T
J83	ERJ6GEY0R00V	Chip 0 ohms 1/10W	T
J84	ERJ8GX0R00V	Chip 0 ohms 1/8W	T
J90	ERJ8GX0R00V	Chip 0 ohms 1/8W	T
J95	ERJ8GX0R00V	Chip 0 ohms 1/8W	T
J96	ERJ8GX0R00V	Chip 0 ohms 1/8W	T
J97	ERJ8GX0R00V	Chip 0 ohms 1/8W	T
J89	ERJ8GX0R00V	Chip 0 ohms 1/8W	T
J102	ERJ8GX0R00V	Chip 0 ohms 1/8W	T
J169	ERJ8GX0R00V	Chip 0 ohms 1/8W	T
J171	ERJ8GX0R00V	Chip 0 ohms 1/8W	T
J175	ERJ8GX0R00V	Chip 0 ohms 1/8W	T
J701	ERJ6GEY0R00V	Chip 0 ohms 1/10W	T
J725	ERJ8GX0R00V	Chip 0 ohms 1/8W	T
J797	ERJ8GX0R00V	Chip 0 ohms 1/8W	T
J798	ERJ8GX0R00V	Chip 0 ohms 1/8W	T
J800	ERJ6GEY0R00V	Chip 0 ohms 1/10W	T

Ref. No.	Part No.	Part Name & Description	Remarks
J801	ERJ8GX0R00V	Chip 0 ohms 1/8W	T
J802	ERJ8GX0R00V	Chip 0 ohms 1/8W	T
J804	ERJ8GX0R00V	Chip 0 ohms 1/8W	T
J805	ERJ8GX0R00V	Chip 0 ohms 1/8W	T
J806	ERJ8GX0R00V	Chip 0 ohms 1/8W	T
J807	ERJ6GEY0R00V	Chip 0 ohms 1/10W	T
J810	ERJ8GX0R00V	Chip 0 ohms 1/8W	T
J811	ERJ8GX0R00V	Chip 0 ohms 1/8W	T
J820	ERD25TJ224	Carbon 220k ohms 1/4W	T
J821	ERJ8GX0R00V	Chip 0 ohms 1/8W	T
J822	ERJ8GX0R00V	Chip 0 ohms 1/8W	T
J823	ERJ8GX0R00V	Chip 0 ohms 1/8W	T
J824	ERJ8GX0R00V	Chip 0 ohms 1/8W	T
J825	ERJ6GEY0R00V	Chip 0 ohms 1/10W	T
J831	ERJ8GX0R00V	Chip 0 ohms 1/8W	T
J835	ERJ8GX0R00V	Chip 0 ohms 1/8W	T
J860	ERJ8GX0R00V	Chip 0 ohms 1/8W	T
J861	ERJ8GX0R00V	Chip 0 ohms 1/8W	T
J862	ERJ6GEY0R00V	Chip 0 ohms 1/10W	T
R6	ERJ8GEYJ472	Chip 4.7k ohms 1/8W	T
R3	ERD25TJ471	Carbon 470 ohms 1/4W	T
R4	ERJ6GEYJ563	Chip 56K ohms 1/10W	T
R7	ERDS2TJ472T	Carbon 470 ohms 1/4W	T
R8	ERJ6GEYJ105	Chip 1000k ohms 1/10W	T
R20	ERJ6GEYJ222	Chip 2.2k ohms 1/10W	T
R21	ERJ6GEYJ224	Chip 220k ohms 1/10W	T
R22	ERJ6GEYJ222	Chip 2.2k ohms 1/10W	T
R23	ERJ6GEYJ152	Chip 1.5k ohms 1/10W	T
R25	ERJ8GEYJ332V	Chip 3.3k ohms 1/8W	T
R26	ERJ6GEYJ332	Chip 3.3k ohms 1/10W	T
R50	ERJ6GEYJ5R6	Chip 5.6 ohms 1/10W	T
R51	ERJ6GEYJ472	Chip 4.7k ohms 1/10W	T
R52	ERJ6GEYJ223	Chip 22k ohms 1/10W	T
R53	ERJ6GEYJ221	Chip 220 ohms 1/10W	T
R54	ERJ8GEYJ103V	Chip 10k ohms 1/8W	T
R55	ERJ6GEYJ102	Chip 1k ohms 1/10W	T
R56	ERJ8GEYJ103V	Chip 10k ohms 1/8W	T
R58	ERDS2TJ332	Carbon 3.3k ohms 1/4W	T
R59	ERJ6GEYJ822	Chip 8.2k ohms 1/10W	T
R211	ERJ6GEYJ123	Chip 12k ohms 1/10W	T
R212	ERJ6GEYJ473	Chip 47k ohms 1/10W	T
R213	ERJ6GEYJ183	Chip 18k ohms 1/10W	T
R214	ERJ6GEYJ752	Chip 7.5k ohms 1/10W	T
R215	ERJ6GEYJ272	Chip 2.7k ohms 1/10W	T
R216	ERJ8GEYJ682V	Chip 6.8k ohms 1/8W	T
R217	ERJ6GEYJ103	Chip 10k ohms 1/10W	T
R218	ERJ6GEYJ103	Chip 10k ohms 1/10W	T
R222	ERJ8GEYJ822V	Chip 8.2k ohms 1/8W	T
R224	ERJ6GEYJ682	Chip 6.8k ohms 1/10W	T
R225	ERJ6JEYJ822	Chip 8.2k ohms 1/10W	T
R226	ERJ6GEYJ332	Chip 3.3k ohms 1/10W	T
R241	ERJ8GEYJ103	Chip 10k ohms 1/8W	T
R243	ERJ8GEYJ471	Chip 470 ohms 1/8W	T
R251	ERD25TJ562	Carbon 5.6k ohms 1/4W	T

Ref. No.	Part No.	Part Name & Description	Remarks
R252	ERJ6G0R00V	Chip 10k ohms 1/10W	T
R263	ERJ8GEYJ101	Chip 100 ohms 1/8W	T
R271	ERD25TJ101	Carbon 100 ohms 1/4W	T
R272	ERD25TJ101	Carbon 100 ohms 1/4W	T
R281	ERJ6GEYJ223	Chip 22k ohms 1/10W	T
R282	ERJ6GEYJ223	Chip 22k ohms 1/10W	T
R311	ERJ6GEYJ123	Chip 12k ohms 1/10W	T
R312	ERD6GEYJ473	Chip 47k ohms 1/10W	T
R313	ERJ6GEYJ183	Chip 18k ohms 1/10W	T
R314	ERJ6GEYJ752	Chip 7.5k ohms 1/10W	T
R315	ERJ6GEYJ272	Chip 2.7k ohms 1/10W	T
R316	ERJ6GEYJ682	Chip 6.8k ohms 1/10W	T
R317	ERJ6GEYJ103	Chip 10k ohms 1/10W	T
R318	ERJ6GEYJ103	Chip 10k ohms 1/10W	T
R322	ERG6GEYJ822	Chip 8.2k ohms 1/10W	T
R324	ERJ8GEYJ682V	Chip 6.8k ohms 1/8W	T
R325	ERJ8GEYJ822V	Chip 8.2k ohms 1/8W	T
R326	ERJ6GEYJ332	Chip 3.3k ohms 1/10W	T
R338	ERJ6GEYJ102	Chip 1k ohms 1/10W	T
R339	ERJ6GEYJ102	Chip 1k ohms 1/10W	T
R341	ERJ6GEYJ103	Chip 10k ohms 1/10W	T
R343	ERJ8GEYJ471V	Chip 470 ohms 1/8W	T
R351	ERD25TJ562	Carbon 5.6k ohms 1/4W	T
R352	ERJ6GEY0R00V	Chip 0 ohms 1/10W	T
R363	ERJ8GEYJ101V	Chip 100 ohms 1/8W	T
R371	ERD25TJ101	Chip 100 ohms 1/4W	T
R372	ERD25TJ101	Chip 100 ohms 1/4W	T
R381	ERJ8GEYJ223V	Chip 22k ohms 1/8W	T
R382	ERG6GEYJ223	Chip 22k ohms 1/10W	T
R401	ERJ8GEYJ472V	Chip 4.7k ohms 1/8W	T
R404	ERDS2TJ152	Carbon 1.5k ohms 1/4W	T
R405	ERJ6GEYJ152	Chip 1.5k ohms 1/8W	T
R406	ERDS2TJ152	Carbon 1.5k ohms 1/4W	T
R407	ERJ6GEYJ471	Chip 470 ohms 1/10W	T
R408	ERD25TJ181	Carbon 180 ohms 1/4W	T
R411	ERJ8GEYJ123V	Chip 12k ohms 1/8W	T
R412	ERDS2TJ123	Carbon 12k ohms 1/4W	T
R413	ERJ6GEYJ123	Chip 12k ohms 1/10W	T
R414	ERJ6GEYJ123	Chip 12k ohms 1/10W	T
R600	ERJ6GEYJ473	Chip 47k ohms 1/10W	T
R601	ERJ6GEYJ473	Chip 47k ohms 1/10W	T
R603	ERJ6GEYJ473	Chip 47k ohms 1/10W	T
R604	ERJ6GEYJ473	Chip 47k ohms 1/10W	T
R612	ERJ6GEYJ473	Chip 47k ohms 1/10W	T
R613	ERJ8GEYJ1022V	Chip 10.2k ohms 1/8W	T
R614	ERJ6GEYJ473	Chip 47k ohms 1/10W	T
R615	ERD25TJ473	Carbon 47k ohms 1/4W	T
R616	ERDS2TJ473	Carbon 47k ohms 1/4W	T
R619	ERJ8GEYJ472V	Carbon 4.7k ohms 1/8W	T
R620	ERDS2TJ103	Carbon 10k ohms 1/4W	T
R621	ERJ6GEYJ103	Chip 10k ohms 1/10W	T
R623	ERJ6GEYJ183	Chip 18k ohms 1/10W	T
R628	ERJ8GEYJ473V	Chip 47k ohms 1/8W	T
R629	ERJ6GEYJ683	Chip 68k ohms 1/10W	T

Ref. No.	Part No.	Part Name & Description	Remarks
R636	ERJ6GEYJ103	Chip 10k ohms 1/10W	T
R630	ERD25TJ102	Carbon 1k ohms 1/4W	T
R637	ERJ8GEYJ103V	Chip 10k ohms 1/8W	T
R638	ERJ6GEYJ472	Chip 4.7k ohms 1/10W	T
R654	ERJ6GEYJ473	Chip 47k ohms 1/10W	T
R655	ERJ6GEYJ473	Chip 47k ohms 1/10W	T
R656	ERJ6GEYJ473	Chip 47k ohms 1/10W	T
R668	ERJ6GEYJ102	Chip 1k ohms 1/10W	T
R669	ERJ6GEYJ102	Chip 1k ohms 1/10W	T
R670	ERJ6GEYJ102	Chip 1k ohms 1/10W	T
R671	ERJ8GEYJ473V	Chip 47k ohms 1/8W	T
R672	ERJ8GEYJ473V	Chip 47k ohms 1/8W	T
R673	ERJ6GEYJ473	Chip 47k ohms 1/10W	T
R700	ERJ6GEYJ102	Chip 1k ohms 1/10W	T
R721	ERJ8GEYJ5R6V	Chip 5.6 ohms 1/8W	T
R722	ERJ8GEYJ471V	Chip 470 ohms 1/8W	T
R723	ERD25FJ5R6T	Carbon 5.6 ohms 1/4W	T
R728	ERD25TJ681	Carbon 680 ohms 1/4W	T
R729	ERD25TJ681	Carbon 680 ohms 1/4W	T
R737	ERJ8GEYJ472V	Chip 4.7k ohms 1/8W	T
R740	ERD25TJ472	Carbon 4.7k ohms 1/4W	T
R900	ERDS1FJ101	Carbon 100 ohms 1/2W	T
R901	ERDS1FJ101	Carbon 100 ohms 1/2W	T
R902	ERD25TJ102	Carbon 1k ohms 1/4W	T
R910	ERJ6GEYJ102V	Chip 1k ohms 1/10W	T
R911	ERJ8GEYJ222V	Chip 2.2k ohms 1/8W	T
R912	ERJ6GEYJ153	Chip 15k ohms 1/10W	T
C251	ERJ6GEYJ392V	Chip 3.9k ohms 1/10W	T
C351	ERJ6GEYJ392V	Chip 3.9k ohms 1/10W	T
DISPLAY BLOCK [E-4C201]			
R500	ERJ6GEYJ391	Chip 390 ohms 1/10W	T
R700	ERJ6GEYJ391	Chip 390 ohms 1/10W	T
R905	ERJ6GEYJ103	Chip 10k ohms 1/10W	T
R915	ERJ6GEYJ473	Chip 47k ohms 1/10W	T
R921	ERJ6GEYJ391	Chip 390 ohms 1/10W	T
R926	ERJ6GEYJ391	Chip 390 ohms 1/10W	T
R927	ERJ6GEYJ181	Chip 180 ohms 1/8W	T
R928	ERJ8GEYJ391V	Chip 390 ohms 1/8W	T
R917	ERJ6GEYJ4R7	Chip 4.7 ohms 1/10W	T
R907	ERJ6GEYJ331	Chip 330 ohms 1/10W	T
R922	ERJ6GEYJ181	Chip 180 ohms 1/10W	T
R923	ERJ6GEYJ391	Chip 390 ohms 1/10W	T
R924	ERJ6GEYJ181	Chip 180 ohms 1/10W	T
R925	ERJ6GEYJ391	Chip 390 ohms 1/10W	T
R928	ERJ8GEYJ390V	Chip 39 ohms 1/8W	T
R929	ERJ8GEYJ390V	Chip 39 ohms 1/8W	T
TAPE BLOCK [E-4C141-1]			
J1	ERDS2TJ220	Carbon 22 ohms 1/4W	T
J2	ERDS2TJ220	Carbon 22 ohms 1/4W	T
J101	ERJ8GX0R00V	Chip 0 ohms 1/8W	T

Ref. No.	Part No.	Part Name & Description	Remarks
J102	ERJ8GX0R00V	Chip 0 ohms 1/8W	T
J103	ERJ8GX0R00V	Chip 0 ohms 1/8W	T
J104	ERJ8GX0R00V	Chip 0 ohms 1/8W	T
J105	ERJ8GX0R00V	Chip 0 ohms 1/8W	T
J106	ERJ8GX0R00V	Chip 0 ohms 1/8W	T
J106	ERJ8GX0R00V	Chip 0 ohms 1/8W	T
J108	ERJ8GX0R00V	Chip 0 ohms 1/8W	T
J109	ERJ8GX0R00V	Chip 0 ohms 1/8W	T
J110	ERJ8GX0R00V	Chip 0 ohms 1/8W	T
J111	ERJ8GX0R00V	Chip 0 ohms 1/8W	T
J112	ERJ8GX0R00V	Chip 0 ohms 1/8W	T
J113	ERJ8GX0R00V	Chip 0 ohms 1/8W	T
J114	ERJ8GX0R00V	Chip 0 ohms 1/8W	T
J115	ERJ8GX0R00V	Chip 0 ohms 1/8W	T
J116	ERJ8GX0R00V	Chip 0 ohms 1/8W	T
J117	ERJ8GX0R00V	Chip 0 ohms 1/8W	T
J118	ERJ8GX0R00V	Chip 0 ohms 1/8W	T
J119	ERJ8GX0R00V	Chip 0 ohms 1/8W	T
J120	ERJ8GX0R00V	Chip 0 ohms 1/8W	T
J121	ERJ8GX0R00V	Chip 0 ohms 1/8W	T
J122	ERJ8GX0R00V	Chip 0 ohms 1/8W	T
J123	ERJ8GX0R00V	Chip 0 ohms 1/8W	T
J124	ERJ8GX0R00V	Chip 0 ohms 1/8W	T
J125	ERJ8GX0R00V	Chip 0 ohms 1/8W	T
J126	ERJ8GX0R00V	Chip 0 ohms 1/8W	T
R1	ERJ6GEYJ683	Carbon 68k ohms 1/10W	T
R2	ERJ6GEYJ223	Carbon 22k ohms 1/10W	T
R3	ERJ6GEYJ683	Carbon 68k ohms 1/10W	T
R4	ERJ6GEYJ683	Carbon 68k ohms 1/10W	T
R5	ERJ6GEYJ683	Carbon 68k ohms 1/10W	T
R6	ERJ6GEYJ391	Carbon 390 ohms 1/10W	T
R7	ERJ6GEYJ391	Carbon 390 ohms 1/10W	T
R8	ERJ6GEYJ104	Carbon 100k ohms 1/10W	T
R9	ERJ6GEYJ392	Carbon 3.9k ohms 1/10W	T
R12	ERJ8GEYJ103V	Carbon 10k ohms 1/8W	T
R13	ERJ8GEYJ103V	Carbon 10k ohms 1/8W	T
R14	ERJ8GEYJ103V	Carbon 10k ohms 1/8W	T
R15	ERJ8GEYJ222V	Carbon 2.2k ohms 1/8W	T
R17	ERJ6GEYJ223	Carbon 22k ohms 1/10W	T
R18	ERDS1FJ101	Carbon 100 ohms 1/2W	T
R19	ERJ6GEYJ121	Carbon 120 ohms 1/10W	T
R22	ERJ6GEYJ473	Carbon 47k ohms 1/10W	T
R23	ERJ6GEYJ473	Carbon 47k ohms 1/10W	T
R24	ERJ6GEYJ183	Carbon 18k ohms 1/10W	T
R25	ERJ6GEYJ183	Carbon 18k ohms 1/10W	T
R26	ERJ6GEYJ183	Carbon 18k ohms 1/10W	T
R27	ERJ6GEYJ183	Carbon 18k ohms 1/10W	T
R28	ERJ6GEYJ183	Carbon 18k ohms 1/10W	T
R29	ERJ6GEYJ274	Carbon 270k ohms 1/10W	T
R30	ERJ6GEYJ274	Carbon 270k ohms 1/10W	T
R31	ERJ8GEYJ152V	Carbon 1.5k ohms 1/8W	T
R33	ERJ8GEYJ101V	Carbon 100 ohms 1/8W	T

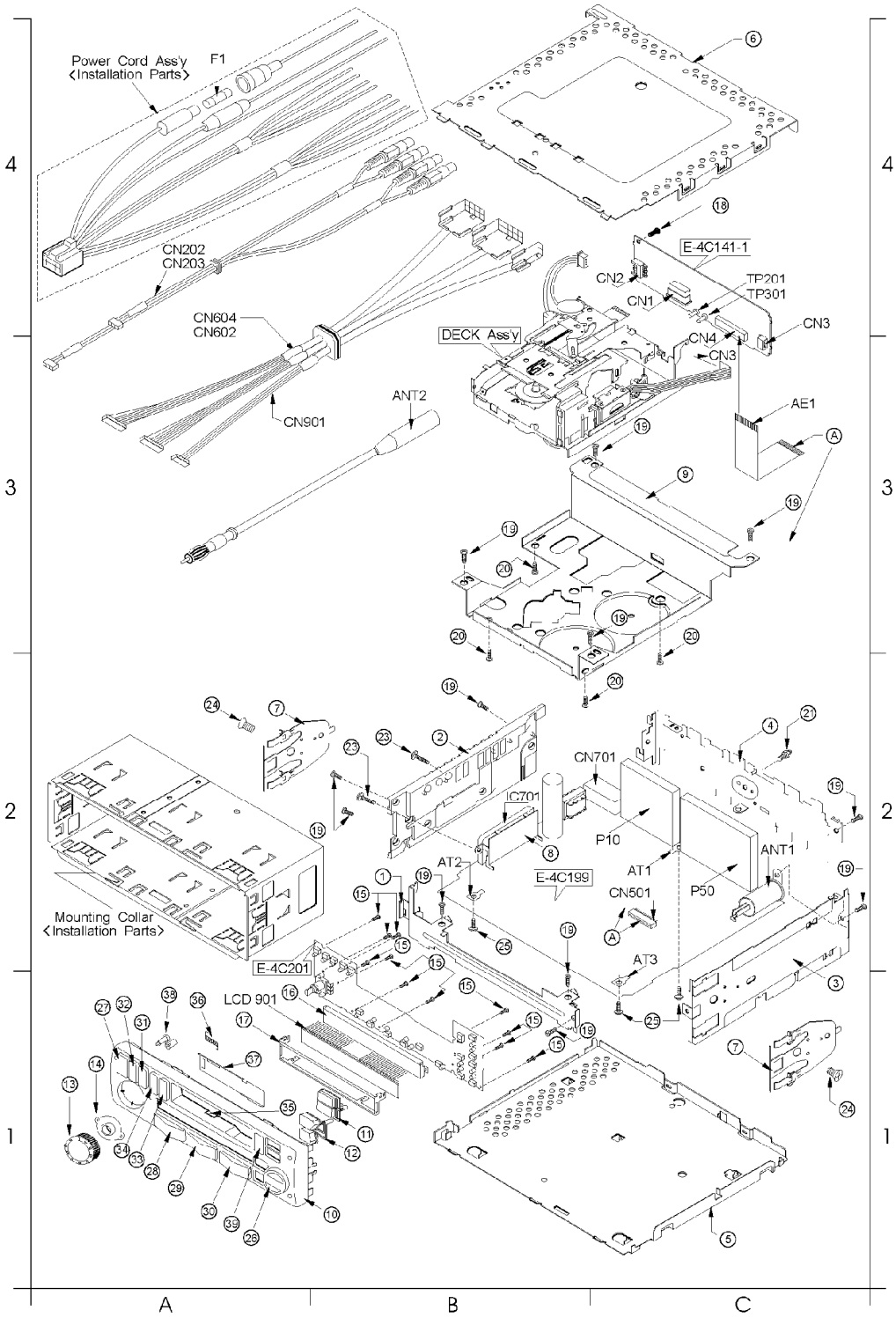
Ref. No.	Part No.	Part Name & Description	Remarks
1.5. Connectors			
MAIN BLOCK [E-4C199]			
CN202	YEAE4CRCA037	Connector (RCA)	T
CN501	YEAE012659	Connector	T
CN601	YEAETKCF010	Connector	T
CN602	YEAEA2001-8P	Connector	T
CN603	YEAEA2001-3P	Connector	T
CN604	YEAEA2001-7P	Connector	T
CN701	YEAE4CCON018	Connector	T
CN901	YEAEA2001-2P	Connector	T
	YEAETKCF010	Connector	T
	YEAE4500U	Cords Ass'y	T
DISPLAY BLOCK [E-4C201]			
CN951	YEAETKCF10XS	Connector	
TAPE BLOCK [E-4C141-1]			
CN1	YEAE5597A09	Connector	
CN2	YEAE5325404	Connector	
CN3	YEAE012684	Connector	
CN4	YEAE012659	Connector	
1.6. Electric Parts			
SWITCHES			
SW1	YEAS08031B62	SWITCH	
SW700	EVQPJJ04T	SWITCH	
SW901	EVQPJJ04T	SWITCH	
SW902	EVQPJJ04T	SWITCH	
SW904	EVQPJJ04T	SWITCH	
SW905	EVQPJJ04T	SWITCH	
SW909	EVQPJJ04T	SWITCH	
SW910	K0H1BA000083	SWITCH	
SW911	EVQPJJ04T	SWITCH	
SQ912	EVQPJJ04T	SWITCH	
SW913	EVQPJJ04T	SWITCH	
SW914	K0H1BA000083	SWITCH	
SW915	EVQPJJ04T	SWITCH	
SW916	EVQPJJ04T	SWITCH	
SW917	EVQPJJ04T	SWITCH	
SW918	EVQPJJ04T	SWITCH	
SW919	EVQPJJ04T	SWITCH	
SW920	EVQPJJ04T	SWITCH	
SW921	EVQPJJ04T	SWITCH	
CRYSTAL			
XL601	YEXL4C45TT	Crystal	T

Ref. No.	Part No.	Part Name & Description	Remarks
COILS			
L30	YELTBLM21A10	Coil	T
L31	YELTBLM21A10	Coil	T
L32	YELTBLM21A10	Coil	T
L33	YELTBLM21A10	Coil	T
L35	YELTBLM21A10	Coil	T
L36	YELTBLM21A10	Coil	T
L101	YELT02C330KT	Axial Coil	T
L700	YETQ024C035	Choke Coil	T
L601	ERD25TJ471	Carbon 470 ohms 1/4W	T
L901	YELTBLM21B10	Coil	T
L902	YELTBLM21B10	Coil	T
L903	YELTBLM21B10	Coil	T
L904	YELTBLM21B10	Coil	T
BPF	YEXC07T009	Band Pass Filter	T
LCD			
LCD901	YEXDCM4C077	LCD	T
VARIABLE RESISTOR			
VR1	EVQBAR00109B	Encode VR	
POSISTOR			
PT701	YERT7AR4R7MT	Posistor	
1.7 Accessories			
PRINTING			
	YFM284C331ZA	Operating Instructions	T
	YFM074C124ZA	Warranty Card	T
	YFM094C012ZA	W/B Service List	T
	YFM094C021ZA	SVC Card (EU)	T
INSTALLATION PARTS			
	YAJ024C083ZA	Power Cord Ass'y	T
	FP-164	Screw Kit and Dismounting Pin	T
	YEFG044C002	Rear Support Strap	T
	FX0214C079YA	Mounting Collar	T
	YAA094C019ZA	ANT Cord	T
1.8. Mechanical Parts			
MISCELLANEOUS			
F1	XBB1F100NS5	Fuse 10A	⚠
Z51	YEADSPD201M	Surge Protector	
Z50	ERZG07DK470T	ZNR	T
ANT1	YAA104C700ZA	ANT Jack	T
AT1	YEAT03420	Terminal	

Ref. No.	Part No.	Part Name & Description	Remarks
AT2	YEAT03420	Terminal	
AT3	YEAT03420	Terminal	
AE1	YEAEFFC005	Frexible Circuit Board	T
TP1	YEAT034C011	Terminal	
TP2	YEAT034C011	Terminal	
TP3	YEAT034C011	Terminal	
TP4	YEAT034C011	Terminal	
TP5	YEAT034C011	Terminal	
TP201	YEAT034C010	Terminal	
TP301	YEAT034C010	Terminal	
1	YEA074C030ZA	Front Plate	T(2-B)
2	YFF014C044ZA	Heat Sink	T(2-B)
3	YFA094C082ZA	Right Plate	T(1-C)
4	YFA084C030ZA	Rear Plate	T(2-C)
5	YFA054C029ZA	Under COver	T(1-C)
6	YFA034C035YB	Upper Cover	T(4-C)
7	FX0054C030ZA	Spring Plate	T(1-C) (2-A)
8	FX0214C172XA	IC Bracket	T(3-C)
9	FX024C203ZA	Deck Bracket	T(3-C)
10	YFC024C470ZA	ESC	T(1-A)
11	YFE134C279ZA	Button (CLK / ALARM)	T(1-B)
12	YFE134C280ZA	Button (MUTE /SCAN)	T(1-B)
13	YFE074C053ZA	Button (KNOB)	T(1-A)
14	FX0014C055YA	Panel Light (PRESET)	T(1-A)
15	XTN2+8GFZ	Screw	T(1-B)
16	YEADGL36F	Back Light Module	T(1-B)
17	FX0214C208ZA	LCD Bracket	T(1-B)
18	XTW2+5FFXS	Screw	T(4-C)
19	XTB3+6FFXS	Screw	
20	YEJS064C001	Screw	T(2-B) (2-C)
21	YEJV014C002A	Bolt	T(2-C)
23	YEJT034C019	Screw	T(1-C) (2-A)
24	XSS5+6FXS	Screw	T(1-C) (2-A)
25	YEJT034C001	Screw	T(1-C) (2-B)
26	YFE134C327ZA	Button (SEEK/TUNE)	T(1-A)
27	YFE134C274ZA	Button (PWR)	T(1-A)
28	YFE134C281ZA	Button (1 MTL/2 NR)	T(1-A)
29	YFE134C313ZA	Button (3 TPS/4 REP)	T(1-A)
30	YFE134C314ZA	Button (5 SKP/6)	T(1-A)
31	YFE134C276ZA	Button (MODE)	T(1-A)
32	YFE134C275ZA	Button (BAND)	T(1-A)
33	YFE134C278ZA	Button (EJECT)	T(1-A)
34	YFE134C277ZA	Button (PLAY)	T(1-A)
35	FX0014C060ZA	Panel Light	T(1-A)
36	YEFX0054C013	Spring	T(1-A)
37	FX0024C074ZA	Cast Cover	T(1-A)
38	YFE134C329ZA	Button (RESET)	T(1-A)
39	YFJ014C048ZA	Sensor Panel	T(1-A)

18. EXPLODED VIEW (Unit)

■ Numbers in ○ are indicated REF.No.in the REPLACEMENT PARTS LIST



19. REPLACEMENT PARTS LIST (Tape Player Parts)

Note:

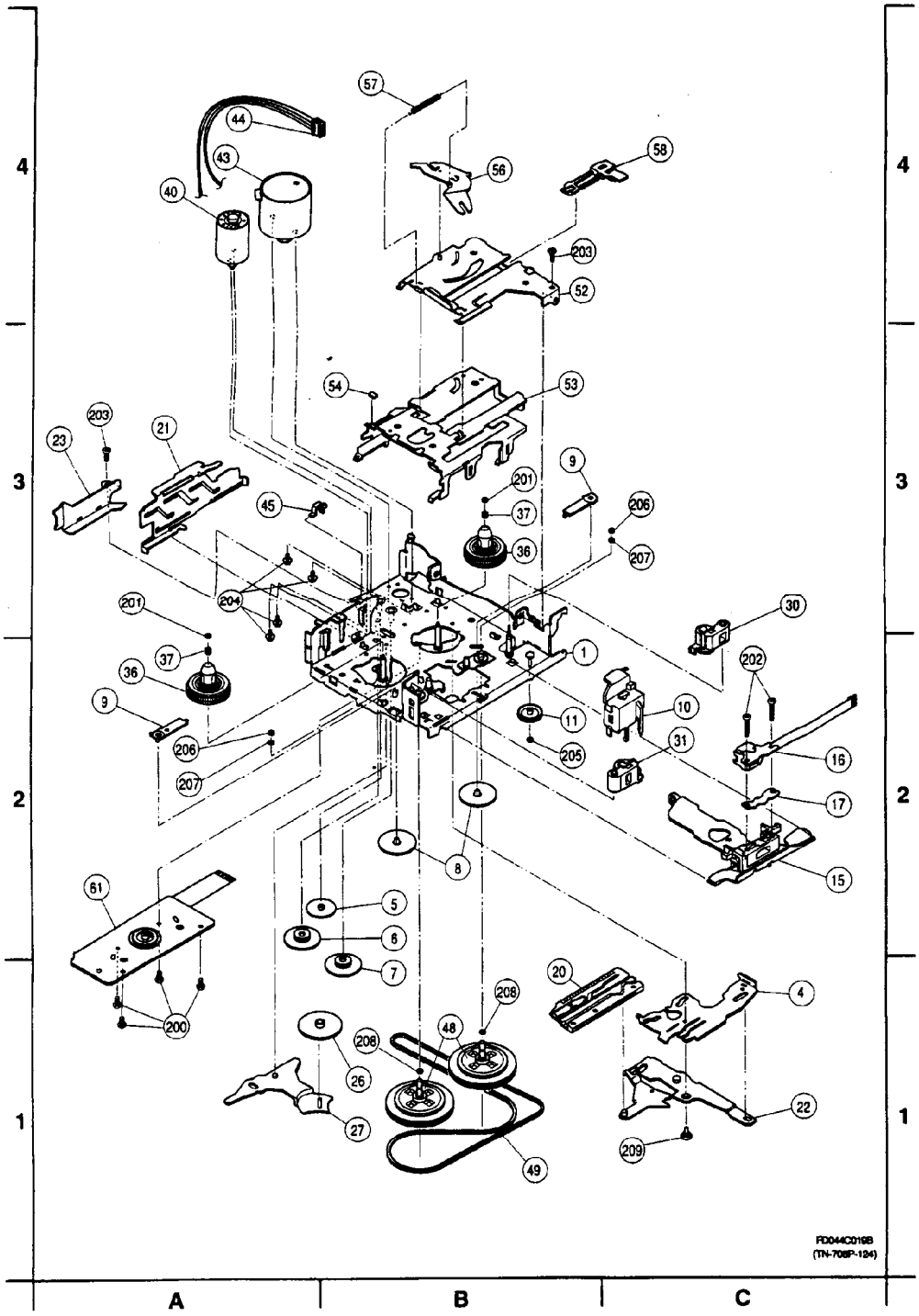
1. Be sure to make your orders of replacement parts according to this list.
2. Important safty notice: Component , indentified by ⚠ mark have special characteristics important for safety. when replacing any of these components, use only manufacturer's specified parts.
3. Location keys in the remarks column indicates the general location of the parts shown in the exploded drawing. as in a load map.
4. "T" marks in remarks colum are indicated supply parts of TAMACO.

Ref. No.	Part No.	Part Name & Description	Remarks
MISCELLANEOUS			
1	YESFA01051	Chassis Rivet Ass'y	(2-B)
4	YESFX046056	Main Plate	(1-C)
5	YESFX003049	B Gear	(2-B)
6	YESFX003050	C Gear	(2-B)
7	YESFX003051	D Gear	(1-B)
8	YESFX003052	P Gear	(2-B)
9	YESFX003053	P.G Plate	(2-A) (3-B)
10	YESFG02021	Guide BKT	(2-C)
11	YESFX026013	Middle Pulley	(2-B)
15	YESFX046057	Head Panel Ass'y	(2-C)
16	YESAH006	P.Head P-5544SD-9949	(2-C)
17	YESFX046058	Head SP Plate	(2-C)
20	YESFX046059	O.P Plate Ass'y	(1-B)
21	YESFX215015	Eject Lever Rivet Ass'y	(3-A)
22	YESFX046060	S.B Plate Rivet Ass'y	(1-C)
23	YESFX046061	O.P Plate Holder	(3-A)
26	YESFX003054	FR Gear	(1-B)
27	YESFX046062	FR Plate	(1-B)
30	YESFX218015	Pinch Roller Arm (F) Ass'y	(3-C)
31	YESFX218016	Pinch Roller Arm (R) Ass'y	(2-C)
36	YESFX209007	Reel Ass'y	(2-A) (3-B)
37	YESFX005074	B. Tension Spring (F)	(2-A) (3-B)
40	YESAK01013	Sub Motor Ass'y	(4-A)
43	YESAK01014	Main Motor Ass'y	(4-A)
44	YESAE283	M Connector Ass'y	(4-A)
45	YESFX006002	Wire Clamper	(3-A)
48	YESFX213004	FL Capstan ASS'Y	(1-B)
49	YEFSFR03003	Main Belt	(1-B)
52	YESFX046064	Case Lifter	(4-A)
53	YESFX239006	Cassette Case	(3-B)
54	YESFS04007	Cusion Rubber	(3-B)
56	YESFX046065	P.S Actuator Plate	(4-A)
57	YESFX005075	P.S Spring	(4-A)
58	YESFX046066	Pack Slider	(4-C)
61	YESAP151	Reel PWB Ass'y	(2-A)
200	YESJS01133	Camera Screw (Tams) 2.0x2.2	(1-A)
201	YESJW01019	Lumilar Washer (Cut) 1.55x3.5x0.5	(3-A) (3-B)
202	YESJS01070	Adjust Screw 2.0x3.0	(2-C)
203	YEFT03084	Camera Tapping Screw 2.0x3.0	(3-A) (4-A)
204	YEJS06130	Tams Screw 2.0x3.0	(3-A)
205	YEJW05130	P.Washer (Cut) 0.85x2.8x0.25	(2-B)
206	YESJW01012	P.Washer (Cut) 1.55X3.5X0.5	(2-A) (3-C)
207	YESJW01013	P.Washer 2.1x3.5x0.2	(2-A) (3-C)

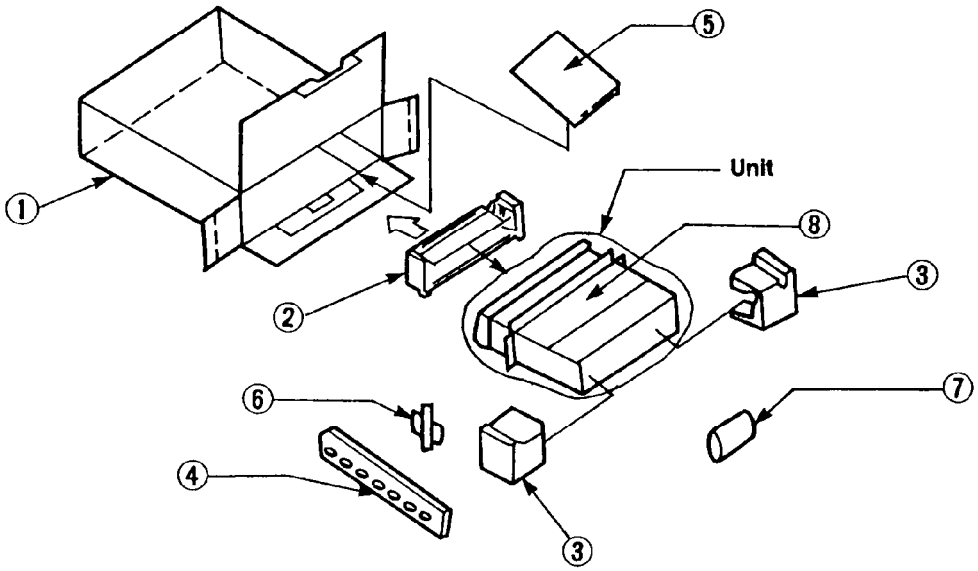
Ref. No.	Part No.	Part Name & Description	Remarks
208	YESJW01014	Lumilar Washer 2.1x3.5x0.1	(1-B)
209	YESJS01091	PK Collar Screw A	(1-C)

20. EXPLODED VIEW (Tape Deck)

■ Numbers in ○ are indicated REF.No. in the REPLACEMENT PARTS LIST



21. PACKING PARTS LIST



· Item numbers listed below shoud not order regular spare parts. (not available)

Item No.	Parts No.	Parts Name & Description	Q'ty	Remarks
1	-	Inner Carton	1	Not Available
2	-	Packing Pad, Front	1	Not Available
3	-	Packing Pad, Right and Left	1	Not Available
4	YEFG044C002	Rear Support Strap	1	
5	-	Operating Instructions Kit	1	Not Available
	YFM284C331ZA	Operating Instructions	(1)	
	-	Warranty Card	(1)	Not Available
	-	Service Center List	(1)	Not Available
6	FP-164	Screw Kit and Dismounting Pin	1	
7	YAJ024C083YB	Power Connector Ass'y	1	
8	FX0214C079YA	Mounting Collar	1	

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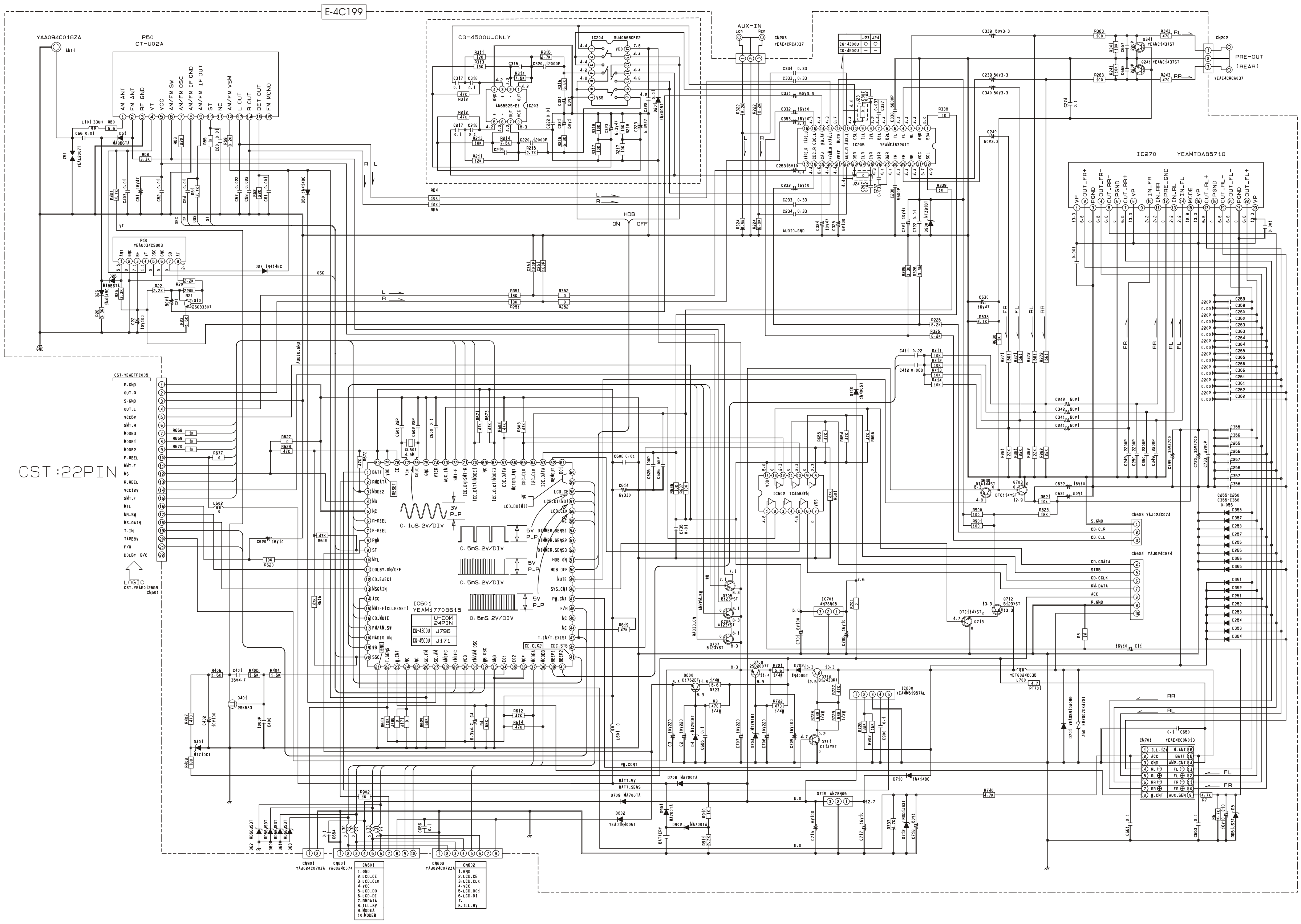
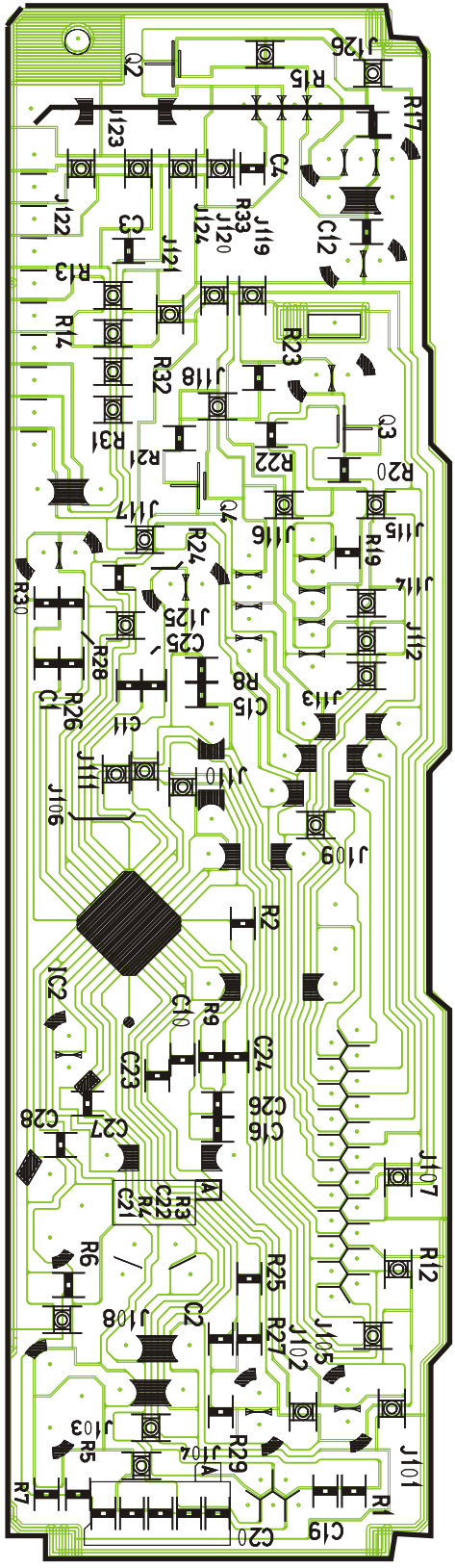
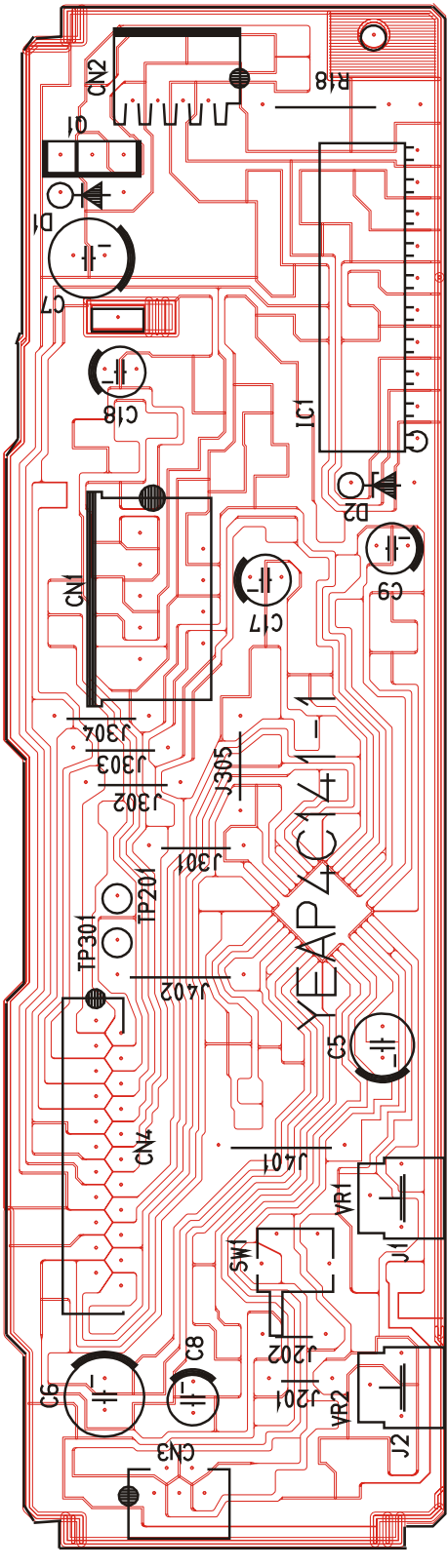


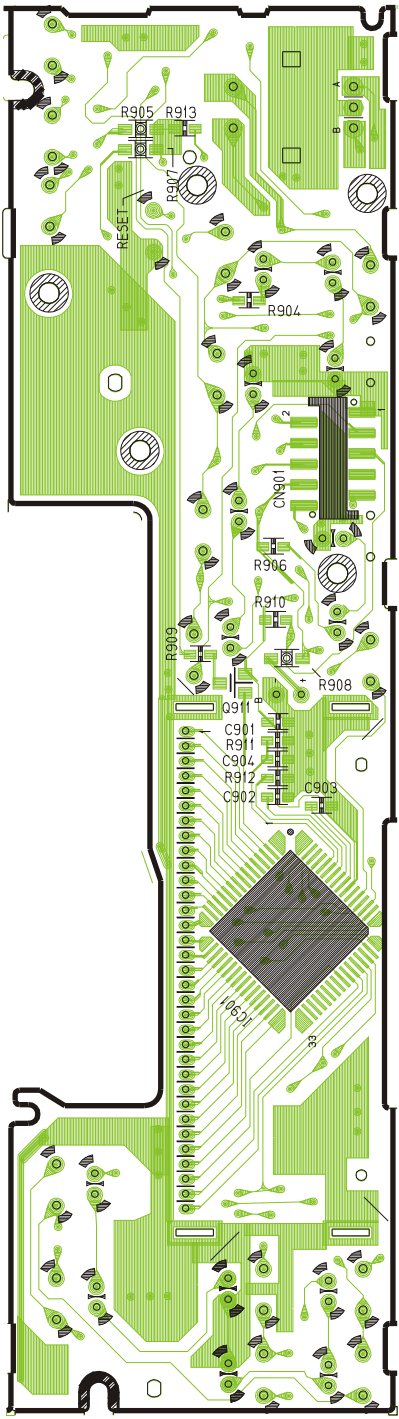
E-4C199
YAA094C018ZA
ANT1
P50
CT-U02A
AM ANT
FM ANT
RF GND
VT
VCC
AM/FM SW
AM/FM OSC
AM/FM IF GND
AM/FM IF OUT
ST
NC
AM/FM VSM
L OUT
R OUT
DET OUT
FM MONO
P10
YEAU034CSU03
ANT GND B+ VT OSC GND SD AF
CQ-4500U_ONLY
IC204 SU4066BCFE2
IC203 AN6552S-E1
HDB
ON
OFF
AUX-IN
Lch
Rch
CN203
YEAE4CRCA037
CQ-4300U
CQ-4500U
J23 J24
IC205 YEAMEA6320TT
CN202
PRE-OUT
(REAR)
YEAE4CRCA037
Q341 YEANC143TST
Q241 YEANC143TST
IC270 YEAMTDA8571Q
VP
OUT_FR+
PGND
OUT_FR-
OUT_RR-
OUT_RR+
IN_FR
IN_RR
PRE_GND
IN_RL
IN_FL
MODE
OUT_RL+
OUT_RL-
OUT_FL-
OUT_FL+
AUDIO_GND
CST.YEAEFFC005
P.GND
OUT.R
S.GND
OUT.L
VCC5V
SMT.R
MODE3
MODE1
MODE2
F.REEL
MMT.F
MS
R.REEL
VCC12V
SMT.F
MTL
NR.SW
MS_GAIN
T.IN
TAPE8V
F/R
DOLBY B/C
LOGIC
CST.YEAE012659
CN501
CST:22PIN
IC601
YEAM17708615
U-COM 24PIN
CQ-4300U J796
CQ-4500U J171
0.1uS.2V/DIV
3V P_P
0.5mS.2V/DIV
5V P_P
BATT
RMDATA
MODE2
MS
NC
R-REEL
F-REEL
PWM
ST
MTL
DOLBY_ON/OFF
CD_EJECT
MSGAIN
ACC
MMT-F(CD_RESET)
CD_MUTE
FM/AM_SW
RADIO ON
WB
SSC
T.SENS
W.CNT
SD.FM
SD.AM
AMIFC
FMIFC
VDD
FM/AM OSC
WB OSC
GND
EO1
EO2
NC*
MODEA
MODEB
BEEP1
BEEP2
CDC_STB
CD_CLK2
T.IN/T.EXIST
F/R
PW_CNT
SYS_CNT
MUTE
HDB OFF
HDB ON
DIMMER_SENS1
DIMMER_SENS2
DIMMER_SENS3
LCD_CLK
LCD_DI(MO)
LCD_CE
LCD_DO(MI)
DO1
REMOUT
I2C.DATA
I2C.CLK
CDC.CLK
MOTOR.ANT
CDC.DATA
(CD_CLK1)MODE3
(CD_DATA)MODE1
(CD_ON)SMT-R
SMT-F
AUX.IN
VTER
Xout
Xin
CE
RESET
XL601 4.5M
IC602 TC4584FN
IC701 AN78N05
Q715 AN78N05
IC800 YEAMM51957AL
CN603 YAJ024C074
S.GND
CD.C.R
CD.C.L
CN604 YAJ024C074
CD.CDATA
STRB
CD.CCLK
RM.DATA
ACC
P.GND
PW_CONT
BATT_5V
BATT_SENS
BATTERY
CN701 YEAE4CCON013
ILL_12V
ACC
GND
RL⊖
RL⊕
RR⊖
RR⊕
W.CNT
M.ANT
BATT
AMP.CNT
FL⊖
FL⊕
FR⊖
FR⊕
AUX.SEN
CN901 YAJ024C070ZA
CN601 YAJ024C074
CN601
1.GND
2.LCD_CE
3.LCD_CLK
4.VCC
5.LCD_DO
6.LCD_DI
7.RMDATA
8.ILL_8V
9.MODEA
10.MODEB
CN602 YAJ024C072ZA
CN602
1.GND
2.LCD_CE
3.LCD_CLK
4.VCC
5.LCD_DO1
6.LCD_DI
7.
8.ILL_8V



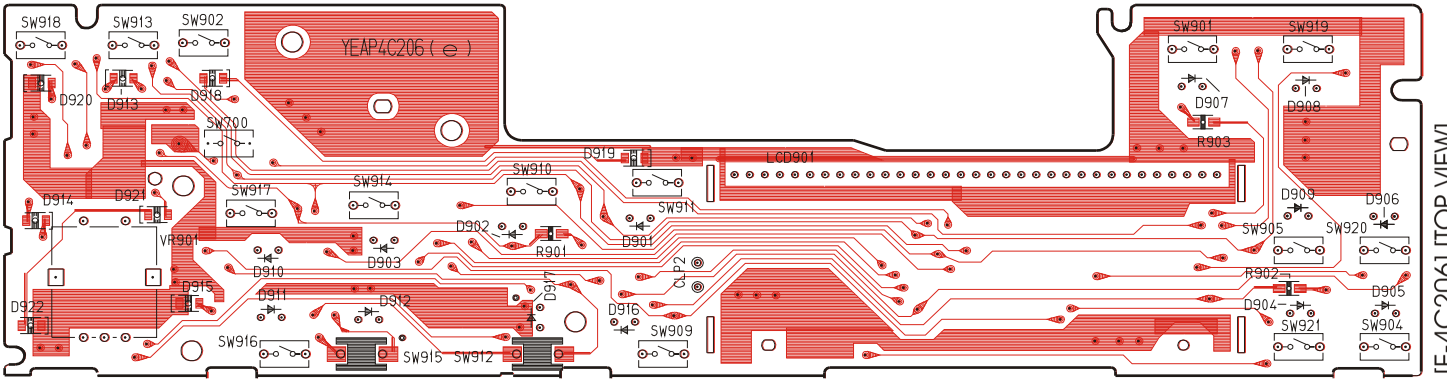
[E-4C141-1] [Bottom Vie w]



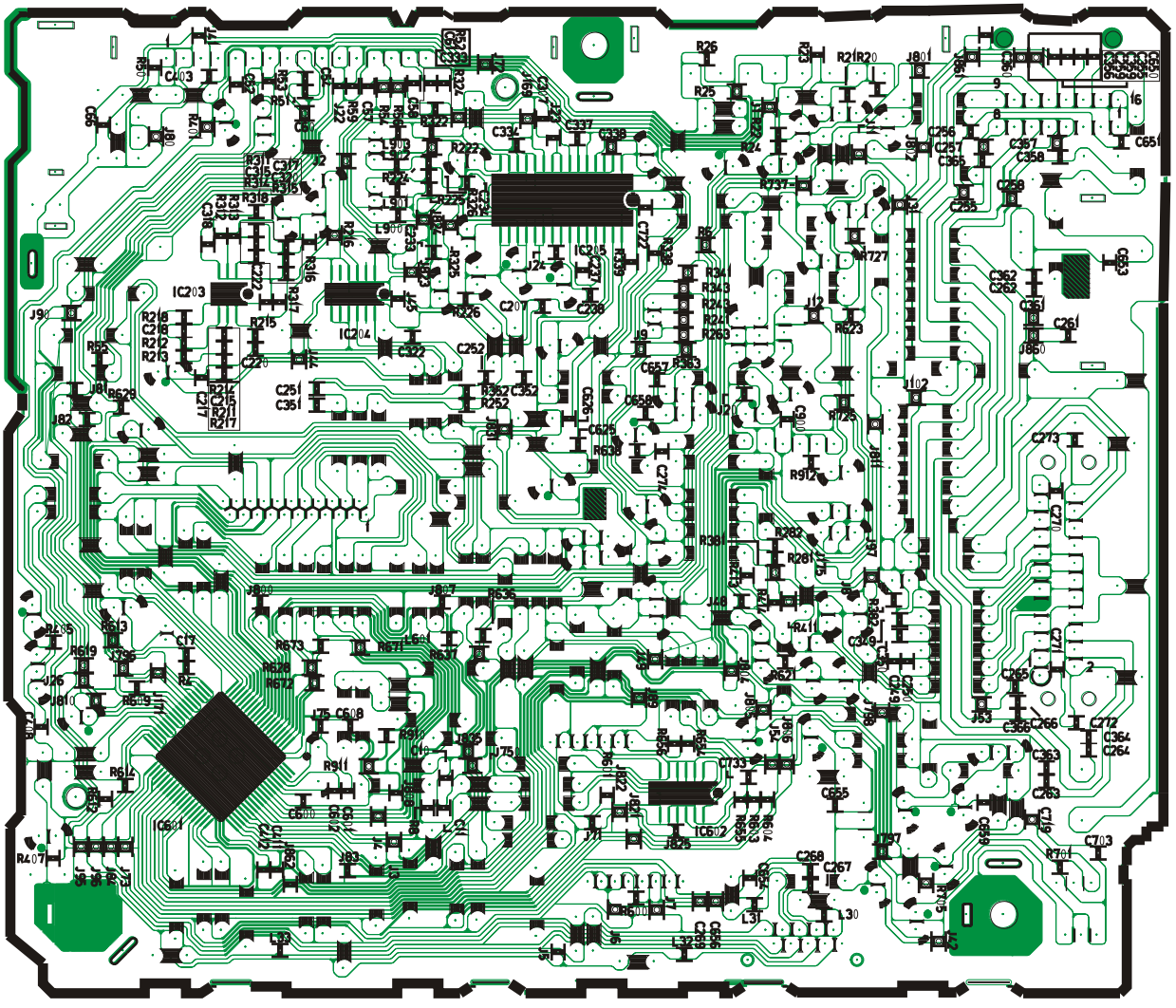
[E-4C141-1] [Top View]



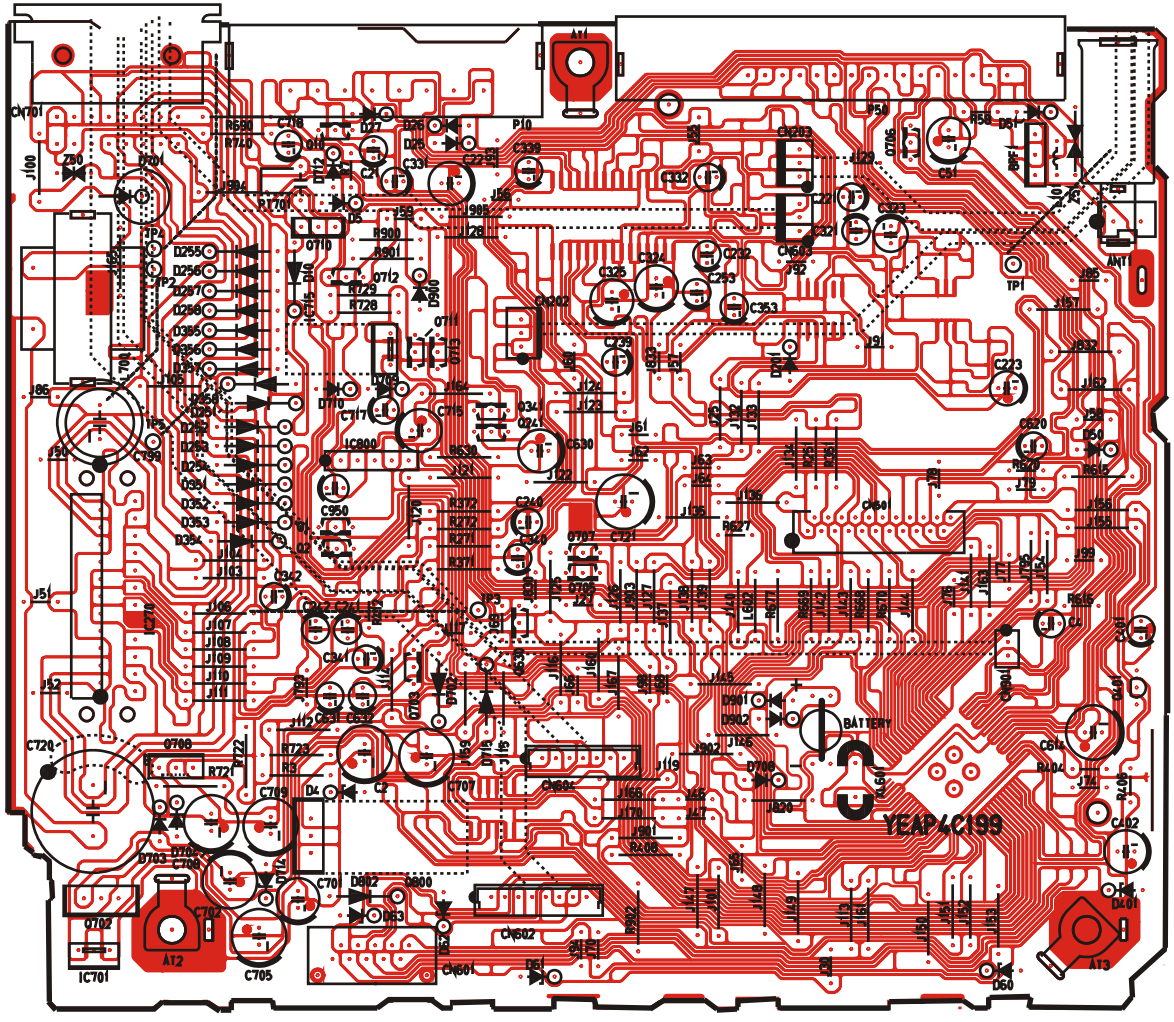
[E-4C206] [BOTTOM VIEW]



[E-4C206] [TOP VIEW]

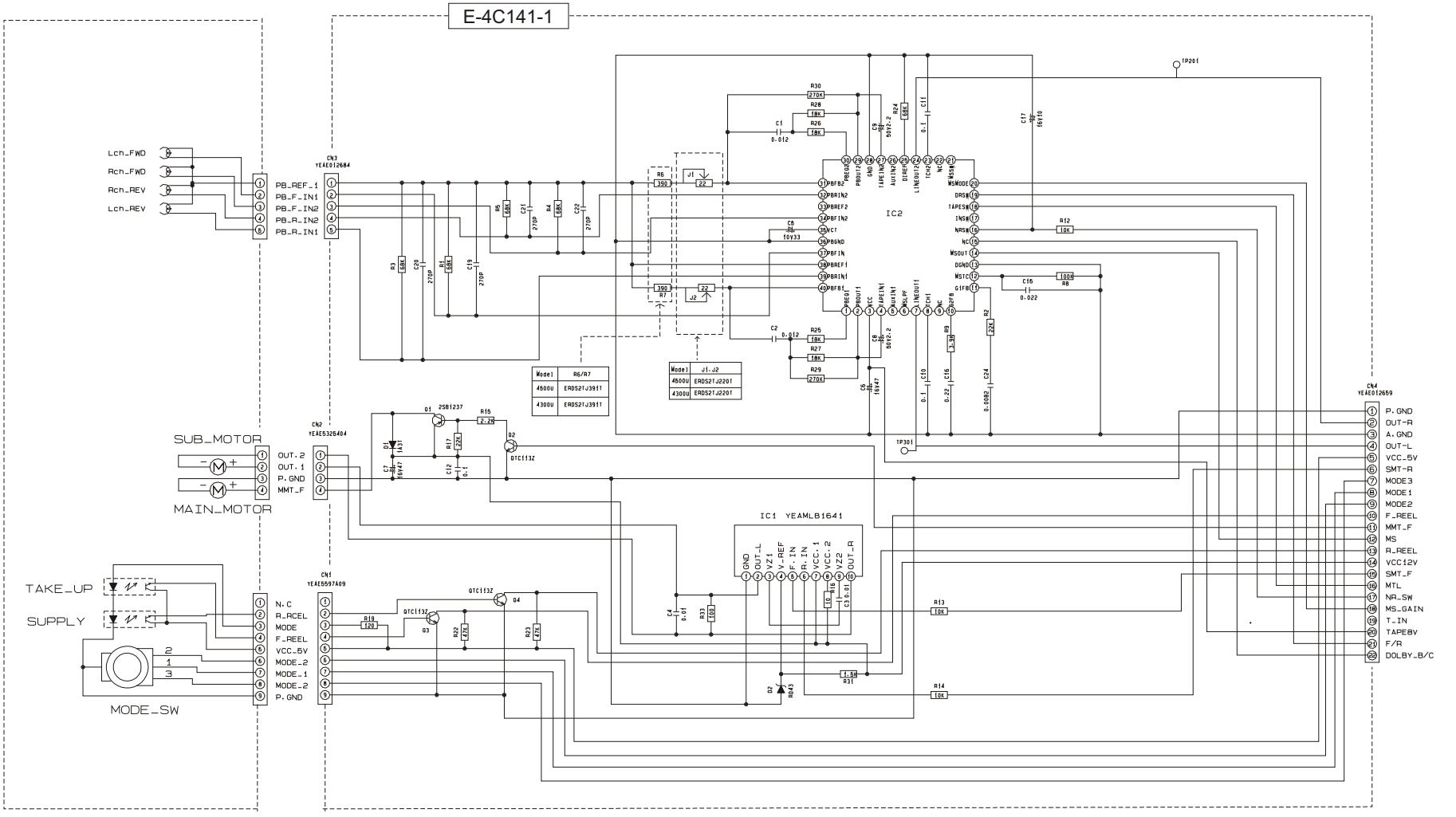


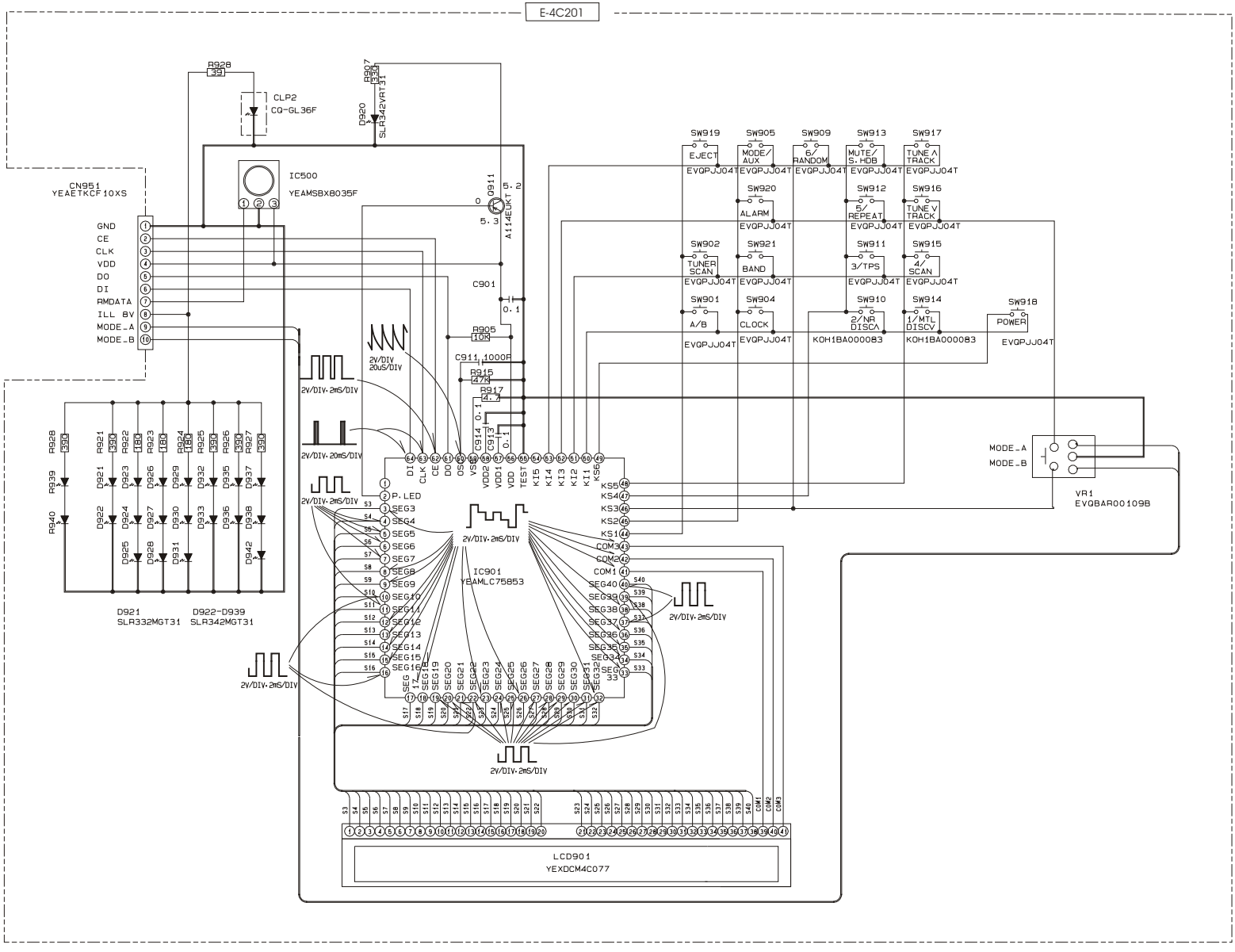
[E-4C199] [Bottom View]



[E-4C199] [Top View]

E-4C141-1


Lch_FWD
Rch_FWD
Rch_REV
Lch_REV
CN3
YEAE012684
PB_REF_1
PB_F_IN1
PB_F_IN2
PB_R_IN2
PB_R_IN1
IC2
TP201
TP301
SUB_MOTOR
MAIN_MOTOR
CN2
YEAE5326404
OUT.2
OUT.1
P.GND
MMT_F
Q1 2SB1237
Q2 DTC113Z
Q3 DTC113Z
Q4 DTC113Z
IC1 YEAMLB1641
GND
OUT-L
VZ1
V.REF
F.IN
R.IN
VCC.1
VCC.2
VZ2
OUT-R
TAKE_UP
SUPPLY
MODE_SW
CN1
YEAE0597A09
N.C
R_RCEL
MODE
F_REEL
VCC_5V
MODE_2
MODE_1
MODE_2
P.GND
CN4
YEAE012669
P.GND
OUT-R
A.GND
OUT-L
VCC_5V
SMT-R
MODE3
MODE1
MODE2
F_REEL
MMT_F
MS
R_REEL
VCC12V
SMT_F
MTL
NR_SW
MS_GAIN
T_IN
TAPE8V
F/R
DOLBY_B/C
Model
R6/R7
4500U
ERDS2TJ391T
4300U
ERDS2TJ391T
Model
J1.J2
4500U
ERDS2TJ220T
4300U
ERDS2TJ220T


R928
39
CLP2
CQ-GL36F
R907
R908
D920
SLR342VRT31
IC500
YEAMSBX8035F
CN951
YEAETKCF10XS
GND
CE
CLK
VDD
DO
DI
RMDATA
ILL 8V
MODE_A
MODE_B
C901
0.1
R905
10K
C911 1000P
R915
47K
R917
4.7
C914 0.1
C913 0.1
2V/DIV 20uS/DIV
2V/DIV 2mS/DIV
2V/DIV 20mS/DIV
P.LED
IC901
YEAMLC75853
SEG3
SEG4
SEG5
SEG6
SEG7
SEG8
SEG9
SEG10
SEG11
SEG12
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SEG39
SEG40
COM1
COM2
COM3
KS1
KS2
KS3
KS4
KS5
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R939
R940
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R922 180
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R927 390
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D931
D932
D933
D936
D938
D942
D921 SLR332MGT31
D922-D939 SLR342MGT31
SW919 EJECT EVQPJJ04T
SW905 MODE/AUX EVQPJJ04T
SW909 6/RANDOM EVQPJJ04T
SW913 MUTE/S.HDB EVQPJJ04T
SW917 TUNE∧/TRACK EVQPJJ04T
SW920 ALARM EVQPJJ04T
SW912 5/REPEAT EVQPJJ04T
SW916 TUNE∨/TRACK EVQPJJ04T
SW902 TUNER/SCAN EVQPJJ04T
SW921 BAND EVQPJJ04T
SW911 3/TPS EVQPJJ04T
SW915 4/SCAN EVQPJJ04T
SW901 A/B EVQPJJ04T
SW904 CLOCK EVQPJJ04T
SW910 2/NR/DISCA KOH1BA000083
SW914 1/MTL/DISCV KOH1BA000083
SW918 POWER EVQPJJ04T
MODE_A
MODE_B
VR1
EVQBAR00109B
LCD901
YEXDCM4C077